MATERIALITY AND IDENTITY IN PRE- AND PROTOHISTORIC EUROPE

Homage to
Cornelia-Magda
LAZAROVICI

Editors:
Senica Țurcanu
Constantin-Emil Ursu

KARL A. ROMSTORFER PUBLISHING HOUSE

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DTP: Cătălin Hriban

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Victor SPINEI (Iași)
Lăcrămioara STRATULAT (Iași)
Cosmin SUCIU (Timișoara)

Felix-Adrian TENCARIU (Iași)
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Ligia TEODOR (Iași)
Silvia TEODOR (Iași)
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Veronika SZILÁGYI (Budapest)

CORNELIA-MAGDA LAZAROVICI
A LADY OF THE ROMANIAN PREHISTORIC ARCHAEOLOGY

Fully deserved, this anniversary volume is dedicated to Mrs. Cornelia-Magda Lazarovici, who has devoted her entire career to the study of Prehistory in Romania and Southeastern Europe, succeeding, through remarkable contributions, to place her name among the well-known representatives of this field of Romanian and European archeology.

The name of Cornelia-Magda Lazarovici is today a reference for those who are addressing major themes such as the chronology and evolution of the Cucuteni culture, the symbolism of various pieces of plastic art, the forms and the decoration of ceramics, the everyday life of that period, illustrated by household implements or architectural accomplishments.

Some biographical data are essential for understanding the stages of Cornelia-Magda Lazarovici's intellectual and scientific development.

Cornelia-Magda Istrati was born on 1 March 1953, in the old and always young Iași, the center of spirituality and Romanian culture. He grew up in a family environment favorable to the development of interest in humanities, his father being a remarkable scholar of the documents from the beginning of the modern age, with numerous and valuable specialized publications. Both parents, Maria and Corneliu Istrati, came from families with many children, so that even though she was her parents' single child, Magda grew up with numerous cousins, in a community characterized by warm and lasting relationships.

After the primary and secondary studies in her hometown, she followed, in 1972-1976, at *Alma Mater Iassiensis*, the courses of the History Department of the Faculty of History and Philosophy of the oldest University in Romania, bearing the name of its founder, the prince Alexandru Ioan Cuza – the maker of modern Romania.

After graduating, she worked for a few years (1976-1980) in Vaslui, initially as a museographer with the County Museum (1976-1977), then as head of the County Cultural Heritage Office (1977-1980).

During this period, she carried out excavations in several paleolithic sites in Vaslui (Măluşteni IV, Oțetoaia) and Botoșani (Mitoc-*Valea lui Stan*) counties, research whose results were utilized in scientific publications. At the same time, she is carrying out research on Neolithic sites, in Măluşteni-*Via Schineni* (Starčevo-Criş) and Poienești (Starčevo-Criş and Cucuteni cultures) – alone or as a member of archaeology research teams.

In 1980 she moved to Iaşi, where she would work as an archaeologist within the Institute of History and Archeology "A. D. Xenopol". Since 1990, when the Institute reorganizes, she becomes a scientific researcher within the newly created Institute of Archeology, where she ascended naturally all stages of professional development, to the degree of scientific researcher 1st rank.

In 1989 she enrolled in the doctoral course at "Alexandru Ioan Cuza" University in Iaşi, with the subject "Methods of Research and Dating Techniques for the Chronology of Cucuteni Culture". In 1996 she defended her thesis, elaborated under the coordination of Academician Mircea Petrescu-Dîmboviţa.

Permanently concerned with professional development, she was granted over time prestigious research scholarships: DAAD (Germany, 1990, 1997), Fulbright (USA, 2000), Rockefeller (Italy, 2005), which gave an international opening to her scientific works, as well as provided networking opportunities to prestigious specialists in the field, and subsequent collaborations with them in various research projects.

As a recognition of her entire career, she has been awarded the title of *doctor habilitatus* at Babeş-Bolyai University in Cluj-Napoca in 2014, after the public defence of her habilitation thesis "Research concerning Romanian Prehistory". As a result, since 2015 she coordinates doctoral theses within the Institute of Archeology of the Romanian Academy – Iaşi Branch.

The period of thesis elaboration was the one in which the scientific concerns of Magda Lazarovici focused on modern methods of research and dating in archeology. By addressing this issue, she communicated and wrote about automated data processing systems and the various types of archaeometric surveys applicable to archeology. She was equally concerned with modern dating methods in archeology and, as a result of established scientific contacts as well as through her own efforts, she established the dating of several Neolithic and Chalcolithic sites in Romania. All this allowed her to carry out more studies on the absolute chronology of Neo-Eneolithic cultures in Romania, their relations and their synchronicity with the Aegeo-Anatolian world or with other contemporary cultures around the Black Sea. Her concerns in this area are essential, pioneering contributions, and the studies she elaborated are seminal ones, especially since she has returned several times on this subject, as new datings have been developed, obtained by various methods, with an increasing degree of accuracy.

On the other hand, her concerns were not only theoretical, as she continued her archeological fieldwork, with priority in the Neolithic and Eneolithic research. Thus, in the 1980s and 1981s, she continued the researches started in 1979 by Prof. Mircea Petrescu-Dîmboviţa in the Cucutenian settlement at the *Dealul Mănăstirii – La Dobrin* (comm. of Cucuteni, Iaşi County).

In 1985 she initiated the systematic archaeological research in the Cucutenian settlement of *Dealul Bodeşti – La Nuci* (comm. of Scânteia, Iaşi County). Carried out, with

little interruptions, up to the present, the research has allowed her to uncover a special site, featuring an impressive number of statuettes and anthropomorphic vessels (approximately 900), indicating the possible existence of a cult center here, around which gravitate settlements of lesser extent and importance.

One of the major research projects coordinated by Magda Lazarovici on the site of Scânteia since 1992 was the identification of the extent and layout of the settlement by means of geophysical investigations. Influenced by the experience gained from the first DAAD scholarship, her concerns in this direction placed her in the avant-garde elite of archaeologists who capitalized successfully the most modern methods of geomagnetic investigation and satellite/aerial imagery. For this she collaborated with several teams of specialists, both from the Romanian Geological Institute (Mihaela Ghiţă, Gina Manea, Mihai Rogobete, Florin Scurtu) and from the West University of Timişoara (Liviu Măruia, Dorel Micle), and recently from Friedrich-Alexander University in Erlangen (Carsten Mischka). The results were spectacular, revealing a settlement defended by a complex system of fortifications, which included two moats and a specially protected entrance feature.

Over the years, she utilized in an interdisciplinary approach all types of materials discovered in the settlement of Scânteia. She analyzed anthropomorphic and zoomorphic plastic artworks, anthropomorphic representations applied to ceramics, anthropomorphic vessels, miniature ceramic axeheads, or clay tablets with signs and symbols. She utilized the tools of stone, bone and horn, as well as the faunal remains, constantly collaborating with specialists of Iași (geochemist Nicolae Buzgar and archae-zoologist Maria Ştirbu), but also of Bucharest (chemist Gheorghe Niculescu from the National Museum of History of Romania).

Collaboration with anthropologists Dan Botezatu and Bernd Kromer allowed her, beyond the publication of the two inhumation graves discovered in Scânteia, the identification, among the osteological remains found in the settlement, of human bones, which were analyzed and published as such. This type of investigation has drawn attention to a complex issue, also encountered in other Neo-Eneolithic sites in Southeastern Europe, and which elucidation is still at the level of hypotheses.

One should give a special mention to the special collaboration effected since 1993 with the specialists of the Center for Restoration and Conservation of Cultural Heritage of the National Museum Complex "Moldova" in Iași (Arina Huşleag, Ligia Teodor, Codrin Lăcătuşu). Their dedication and special talent allowed the reconstitution in their initial form of a record-breaking number of vessels, of different shapes and sizes, which allowed not only observations of an archaeological and historical nature but also the inclusion of these in several national and international exhibitions, so these could reach a more diverse public, both art and archeology oriented.

In fact, in order to make good use of the potential of Scânteia settlement, Magda Lazarovici brought in the research team of Scânteia site various other specialists from

Romania (Senica Ţurcanu, Ana-Maria Vlad, Maria Geba from Museum Complex "Moldova" in Iaşi), USA (Linda Ellis, of San Francisco State University) and Germany (Doris and Carsten Mischka of the University of Erlangen).

The collaboration with Doris Mischka allowed her to transform the research of Scânteia into a training site for students, master students and doctoral students from Germany and Austria (from Friedrich-Alexander University Erlangen-Nürnberg, Westfälische Wilhelms-Universität Münster and of the Wien Universität – Institut für Urgeschichte).

Another important Cucutenian settlement investigated by Magda Lazarovici is the one of Ruginoasa – *Dealul Drăghici* (Iaşi Co.). Between 2001-2005 she carried out, together with Gheorghe Lazarovici, archaeological rescue excavations in this Cucutenian site, partially destroyed by a limestone quarry. The research carried out in this important Eneolithic site were finalized with the publication of a monograph in 2012. This monograph is a model of scientific archaeological reporting, including interdisciplinary collaborations, as well as the revision of some data of an earlier research of Hortensia Dumitrescu made in the interwar period.

After 2000, Magda Lazarovici was involved in archaeological research in Transylvania, especially on several sites within the caves of Cheile Turzii (comm. of Petreşti, Cluj County). Special mention should be made of the research in the Peştera Caprelor / Peştera Ungurească, which allowed the identification of a prehistoric goldsmith's workshop.

Another coordinate of her archaeological activity implied the advancement of the problem of Neolithic and Chalcolithic architecture in Romania. Concerns in this direction were utilized in two monumental volumes, in addition to a series of extensive studies, elaborated together with Gheorghe Lazarovici. The volumes capitalize on a titanic work, systematizing and highlighting the building and space management techniques specific to each Neo-Eneolithic culture in Romania, with reference to the architectural achievements of Southeastern Europe and Anatolia. The quality and value of the two authors' work was recognized by the award of the Romanian Academy "Vasile Pârvan" Prize in 2006.

Last but not least, Magda Lazarovici focused her energy to decipher the signs and symbols frequently encountered on everyday life objects of the prehistoric communities. She studied both the so-called "Danubian writing" and the symbolism embedded in the signs on various miniature pieces, elaborating catalogs of signs and proposing various interpretations for these. In this respect, one should emphasize the International Conference "From Symbols to Signs", which Magda Lazarovici initiated and organized in Suceava in the past 5 years, together with Constantin-Emil Ursu, Adrian Poruciuc and Gheorghe Lazarovici. Hosted by the Bucovina Museum, the Conference succeeded in gathering world-class scholars, who communicated topics relevant to the general theme, i.e. "Symbols and Signs". Their contributions were collected annually in volumes edited by the Bucovina Museum in Suceava of in the "Ethnoreligion Series".

Speaking about the activity of Magda Lazarovici one should also mention her involvement in the organizing several important national and international exhibitions. Thus, in 1997, when the Romanian state organized a large exhibition dedicated to Cucuteni culture at the Archeology Museum in Athens, one of the specialists required to get involved in this project was Magda Lazarovici, alongside Gheorghe Dumitroaia and Dan and Felicia Monah. The exhibition "Cucuteni. The Last Great Chalcolithic Civilization of Europe" also benefited from a catalog (in English and Greek), which still is a reference work of continental value regarding the features of Cucutenian civilization. In the same direction, is worth mentioning the exhibition "Scânteia. Archaeological Research and Restoration", which capitalized exclusively finds from a single Cucutenian site, the one of Scânteia, which Magda Lazarovici has always associated with her name. In this respect, the exhibition was a landmark event and a model for capitalizing on archaeological research on a particular site.

In 2007, at the Historisches Museum in Olten (Switzerland), the name of Magda Lazarovici was included among the scientific advisers of the project "Meister der Steinzeitkunst - Frühe Kulturen aus Rumänien", an exhibition organized in 2008 by the National History Museum of Bucharest. In this capacity, she coordinated the selection of pieces for a part of the Moldavian counties and elaborated several texts to be included in the Scientific Catalog of the exhibition (a work which unfortunately did not see the light of print).

Last but not least, one should mention the involvement of Magda Lazarovici in organizing the exhibition "The Lost World of Old Europe. The Danube Valley, 5000-3500 BC", opened at the Institute for the Study of the Ancient World at New York University (USA) between November 2009 and April 2010. This transnational exhibition, which included pieces from Bulgaria, Romania and the Republic of Moldova, presented to the overseas public the splendors of "Old Europe" as the latter was defined by Marija Gimbutas. The co-ordinators of the catalog, David W. Anthony and Jennifer Y. Chi, asked Magda Lazarovici to elaborate the text "Cucuteni Ceramics: Technology, Typology, Evolution, and Aesthetics" specifically as an erudite presentation of the painted pottery in this territory. The exhibition was then toured to Oxford and Athens.

Magda Lazarovici also participated in the organization (under the auspices of the Bucovina Museum in Suceava) of the exhibitions and accompanying catalogs related to the Cucuteni culture, opened in the Bytom and Warsaw museums (Poland) in 2009 and 2010.

Over time, Cornelia-Magda Lazarovici has given dozens of presentations and conferences around the world, from San Francisco to Beijing. Among the many studies and books she elaborated, two are particularly significant due to their monographic character, which fill a gap in the literature on Cucuteni culture. First, is the monograph "Cucuteni Culture. Evolution, Chronology, Cultural Relations" (1998), which is the published version of her PhD thesis, and secondly is the synthesis "Cucuteni. A Great Civilization of the Prehistoric World" (2009, together with Gheorghe Lazarovici and Senica

Țurcanu), which reviews the essential data on Cucuteni civilization, in the form of an album with representative sites and pieces.

She has also been involved in many other projects, being a team-member of research projects funded by the National Scientific Research Council. Among these, we mention "Geoscientific view of ceramic technology: evolution from Neolithic to Byzantine times within Romanian territory" (2012-2014, Project manager Corina Ionescu) and "The Ethnoarchaeology of Salt in the Inner Carpathian Area of Romania" (2017-2019, Project manager Marius Alexianu).

One of the extremely ambitious, yet unfinished projects, on which Magda Lazarovici is involved with the scientific coordination team, is the Encyclopedia of Cucuteni-Trypillia Civilization, which will systematize relevant information throughout the area of the famous painted pottery civilization.

Another project – organized together with Lăcrămioara Stratulat – still in its early stage, involves the investigation of a Cucutenian settlement together with specialists from the Institute of Archeology of the Chinese Academy of Sciences in Beijing, given that there is a Neolithic culture in this country with a painted ceramics similar to the Cucuteni type.

Along with the monographic work on prehistoric settlements in Poienești (published in 2015 together with Mircea Babeş), Magda Lazarovici has two other great works in preparation. One presents the results of the research carried out in the caves of Cheile Turzii area, and the second is the monograph of the Cucutenian settlement in Scânteia.

Plenty could be said about the life and activity of Magda Lazarovici, about her projects! However, we would stop here! Magda shall certainly continue!

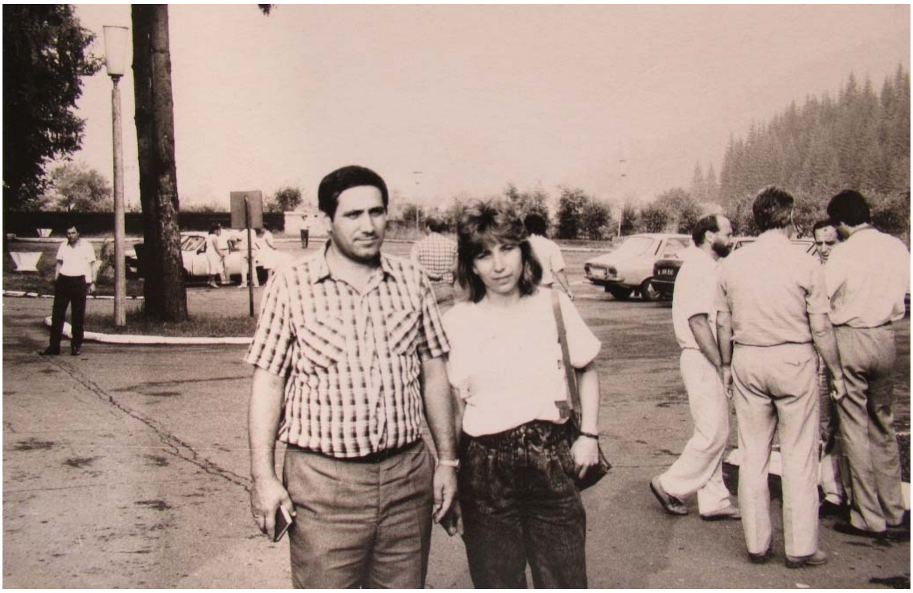
On her anniversary day, we wish her, together with all our friends, colleagues and collaborators, health, strength to work and best results, to the measure of her tenaciousness and her dedication to Archeology!

Happy birthday, dear Magda!

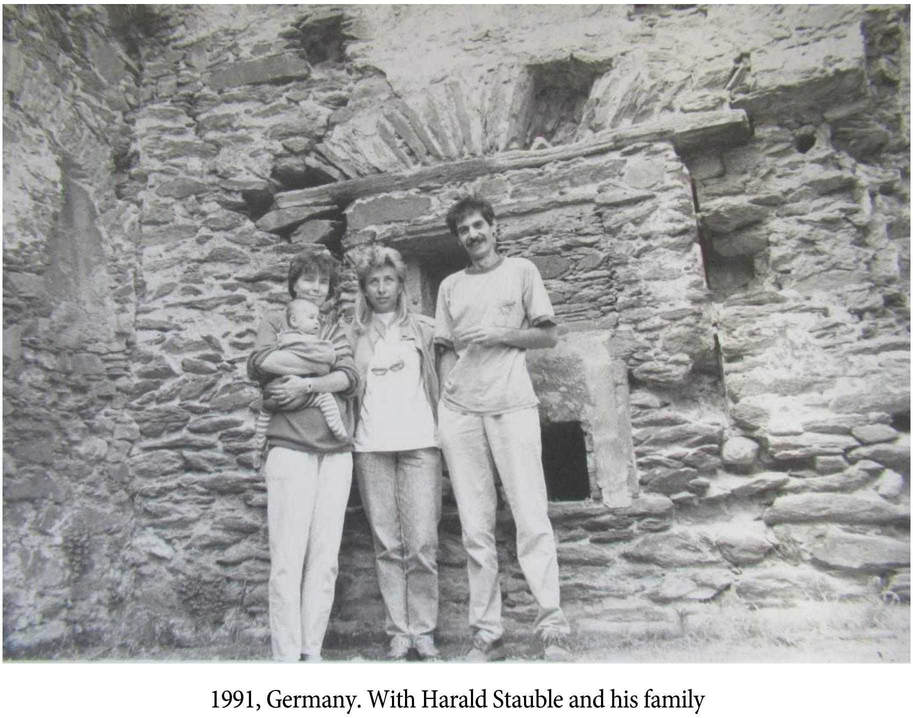
Prof. univ. dr. Nicolae Ursulescu,
Dr. Senica Țurcanu

1985, Malé Vozokany (Slovakia). With Mary Kovacheva and Marin Cârciumaru

1990, with fellow archaeologists (Magda Lazarovici, first on the left)

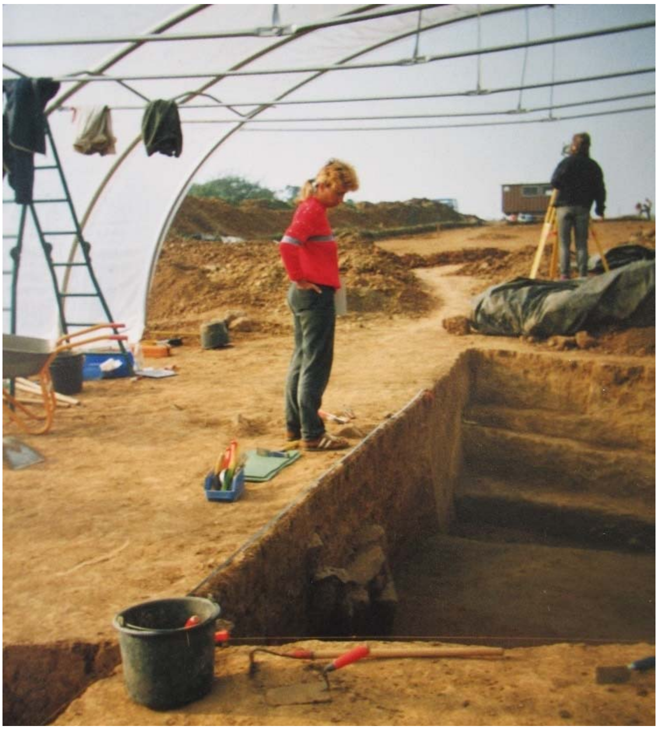


1990, with Victor Sorochin



1991, Germany. With Harald Stauble and his family

1991, Giessen (Germany). With fellow archaeologists



1991, Offenbach (Germany). Magda Lazarovici on the site of a rescue excavation

1992, Germany. Magda Lazarovici (in the middle) on an excavation site

1993, Constanța (Romania). With colleagues, at the International Conference of Thracology

1994, Cucuteni (Romania). With her daughter, Sandra Mantu and with Nikolaus Boroffka

1995, attending a scientific conference

1997, Thessaloniki (Greece). With Aris Tsaravopoulos and Gheorghe Dumitroia setting up the exhibition "Cucuteni. The Last Great Chalcolithic Civilization of Europe"

1999, Cernăuți (Ukraine). With Romanian archaeologists

1999, Cernăuți (Ukraine). With Ukrainian archaeologists

1999, Cernăuți (Ukraine). With Elena Tsvek

1999, Cernăuți (Ukraine). With Romanian archaeologists

2000, Iași (Romania). With her colleagues, in the Director's office (Dan Gh. Teodor), at the Institute of Archaeoloy in Iași.

2000, Pasadena (USA). With Nancy Mako

2000, Los Angeles (USA). With Ernestine Elster

2001, Odessa (Ukraine). With Elena Tsvek and Mircea Petrescu-Dîmbovița

2001, Bilhorod Dnistrovskyi (Ukraine). With Alexey Korvin Piotrovsky

2001, with Gheorghe Lazarovici on the archaeological site of Ruginoasa (Romania)

2001, Scânteia (Romania). With Linda Ellis (upper left), studens and local workers, taking a break

2001, with her family and friends at the monument of Tărtăria (Romania)

2002, with Gheorghe Lazarovici in Cheile Turzii (Romania)

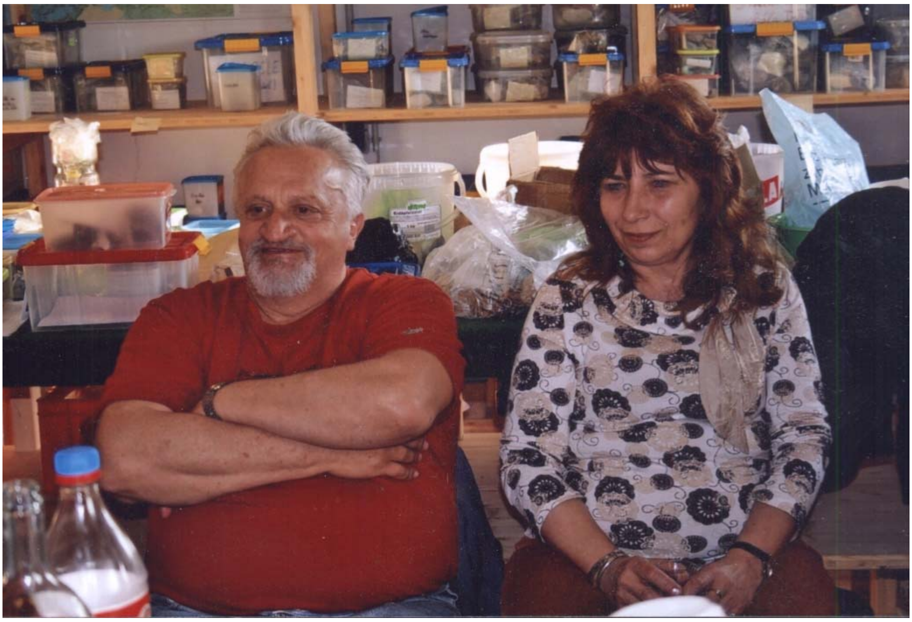
2002, with Gheorghe Dumitroaia at the opening of exhibition ”Scânteia” in Piatra-Neamț (Romania)

2002, Movileni (Romania). With Philip L. Kohl and Gheorghe Lazarovici

2002, Piatra-Neamț (Romania). With Philip L. Kohl and Dorin Nicola

2003, with her husband and daughter

2005, Vienna (Austria). With Gerhard Trnka and his research team



2006, Vienna (Austria). In the Lithotek with Gheorghe Lazarovici

2010, Sita Buzăului (Romania). With Gerhard Trnka, Dan Buzea and Gheorghe Lazarovici

2011, Mitoc (Romania). With Katalin T. Biró and Sándor J. Sztáncsuj

2012, Miercurea Sibiului (Romania). With Cosmin Suciu and Gerhard Trnka (left)
and Gheorghe Lazarovici, Florentina Marțiș and Sabin Adrian Luca (right)

2016, Scânteia (Romania). On the excavation site, with the team of archaeologists,
students and local workers

2016, Scânteia (Romania). With Carsten Mischka

2016, with Pál Raczky in Piatra-Neamț (Romania)

2016, a “presentation dish“ uncovered in Scânteia, in the exhibition *Treasures of Romania*, National Museum of China in Beijing

2017, Sibiu (Romania). With a part of the participants at the International Conference organized by Brukenthal Museum

2017, with Miriam Robbins Dexter at the International Conference in Sibiu (Romania)

2017, with Joan Marler at the International Conference in Sibiu (Romania)

2017, with Doris Mischka and Lăcrămioara Stratulat
on the archaeological site of Scânteia (Romania)

2017, with the team on the archaeological site of Scânteia (Romania)

2017, with "the girls' team" on the archaeological site of Scânteia (Romania)

2017, the opening of the exhibition
Cucuteni: An Insight into the Universe of a Great Prehistoric Civilisation

CORNELIA-MAGDA LAZAROVICI. LIST OF PUBLICATIONS

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DONNEES COMPLEMENTAIRES RELATIVES AU PALEOENVIRONNEMENT ET A LA CHRONOSTRATIGRAPHIE DE MITOC-*MALU GALBEN* DANS LE CONTEXTE DU GRAVETTIEN

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Abstract: Situated on the western bank of the Prut River, the archaeological site in Mitoc-*Malu Galben* provided a remarkable pedosedimetary sequence which integrates a considerable number of well defined Aurignacian and Gravettian habitations. The stratigraphic sequence from Mitoc-*Malu Galben* established between 1991 and 1997 was furthermore refined in 2007 and 2012, when two new horizons were identified (11a in the lower part and 5b in the upper part). The incorporation of horizon 11a proved to be a salutary link to the sequences from Molodova. Therefore, the revised East-Carpathian sequence, integrating data from Mitoc-*Malu Galben*, Molodova V, Cosăuți, as well as the later addition from Dorochivtsy, cover the time frame between cca. 33.000 BP and the onset of the Holocen. No less than 15 interstadial episodes were identified and dated, allowing comparisons with other regional or even globally known climatic events.
Keywords: *Mitoc, stratigraphic sequence, lithostratigraphic units, paleo-environment*

1. INTRODUCTION

Faut-il encore présenter Mitoc-*Malu Galben*? Localisé sur la rive occidentale du Prut, le site enregistre une remarquable séquence pédosédimentaire qui intègre un nombre

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considérable de couches culturelles Aurignaciennes et Gravettiennes[8], dont la chronologie repose sur un ensemble de 25 dates ^{14}C comprises entre 32.750 et 20.200 uncal BP, obtenues pour la plupart sur une sélection de charbons de bois de conifères précisément positionnés en stratigraphie[9]. Combiné aux enregistrements de Molodova V et de Cosautsi sur la rive occidentale du Dniestr, *Malu Galben* constitue l'ossature de la séquence régionale du domaine Est-Carpatique établie entre 1991 et 1997, laquelle couvre le dernier quart du Pléniglaciaire moyen et la totalité du Pléniglaciaire supérieur[10]. Nous montrerons comment les deux horizons de pédogenèse complémentaires reconnus entre 2008 et 2012 dans la partie occidentale du site à *Malu Galben* permettent d'affiner le cadre stratigraphique et chronologique de la séquence, ce qui renforce la cohérence du système à l'échelle du domaine Est-Carpatique

2. MALU GALBEN: LA SEQUENCE STRATIGRAPHIQUE

Celle-ci fut établie entre 1991 et 1997 le long des trois parois qui délimitaient l'excavation de ca 20 m de cotés ouverte vers le Prut, issue des fouilles antérieures[11]. Il en résulta un enregistrement pédosédimentaire de ca 14 m d'épaisseur cumulée, subdivisé en 13 unités associées pour la plupart à un épisode de sédimentation suivi d'une phase de stabilisation avec pédogenèse[12].

La moitié inférieure de la séquence (unités 13 à 7) débute par une génération de dépôts colluviaux (13b, 12a et 11) associés à deux horizons humifères bien exprimés (13a et 12a). Initialement, ceux-ci étaient suivis par trois dépôts limoneux (10b à 8b) portant chacun un horizon humifère décimétrique (10a, 9a et 8a) et se termine par un quatrième dépôt limoneux, à composante éolienne croissante (7b), coiffé par un épais gley de toundra pénétré par un réseau de profondes fentes de gel (7a). En 2007, un relevé du coin droit de la paroi sud (fig. 1 sup.) a permis de compléter cette partie de la séquence, faisant apparaître un épais horizon humifère de type chernozem (11a) développé dans un limon loessique (11b), lesquels se biseautent latéralement entre le limon 10b et les colluvions litées 11c sous-jacentes[13].

Dans la séquence initiale[14], la partie supérieure se compose de six unités loessiques associés pour la plupart à un gley de toundra (unités 6 à 1). Elle enregistre également deux pédogenèses humifères qui se marquent respectivement par un horizon fortement étiré (6c) à la base du loess 6b et par un horizon humifère bioturbé (4a) développé au sommet du loess 4b

[8] OTTE *et al.* 2007; NOIRET 2009.

[9] HAESAERTS 2007; DAMBLON & HAESAERTS 2007.

[10] HAESAERTS *et al.* 2003; HAESAERTS 2007.

[11] CHIRICA 1989.

[12] HAESAERTS 2007.

[13] HAESAERTS *et al.* 2010.

[14] HAESAERTS 2007.

dans la partie gauche de la paroi nord (fig. 1 inf.). Ici aussi, des relevés complémentaires réalisés en 2012 dans la paroi nord, ont révélé la présence d'un horizon humifère bioturbé supplémentaire (5b), biseauté entre le gley 5a et le loess sous-jacent (fig. 1 sup.).

3. Malu Galben: le cadre culturel et chronologique

Un intérêt majeur de la séquence de *Malu Galben* réside dans le grand nombre de niveaux culturels qu'elle contient, principalement sous la forme d'ateliers exploitant le silex accessible à l'époque sous la seconde terrasse du Prut. A ceux-ci sont associées la plupart des concentrations de charbons de bois qui ont permis d'établir la chronologie du site[15]. Au sein de la séquence, l'Aurignacien et le Gravettien occupent deux "aires" stratigraphiques distinctes (Fig. 2).

L'Aurignacien est présent depuis la base des limons 12b datée 32.750 BP, jusqu'à la partie basale du limon 8b qui a fourni le doublet de dates 27.700 et 27.750 BP, en bon accord avec la date de 27.410 BP obtenue pour la partie médiane de 8b. Plusieurs dates comprises entre 31.160 et 31.000 BP se répartissent également entre l'horizon humifère 12a et les ateliers situés à l'interface des unités 11 et 10b. C'est le cas en particulier de l'atelier daté 31.160 BP dans la paroi nord; celui-ci se situe distinctement dans la partie supérieure des limons lités 11c et s'avère donc antérieur à l'horizon humifère 11a rencontré dans la paroi sud en 1998, dont l'extension latérale a pu être suivie en 2012 dans la paroi ouest[16].

Pour le Gravettien, les couches culturelles sont largement distribuées depuis la partie inférieure du limon 7b, jusqu'au gley de toundra 4a, le matériel récolté étant peu documenté dans les unités 3 à 1. Les concentrations de charbons de bois étant relativement abondantes dans la séquence gravettienne, on dispose d'un cadrage chronologique basé sur une série cohérente de datations (figs. 1 inf. et 2). Celles-ci se répartissent entre 26.500 BP pour la partie supérieure du limon 7b et 20.540 pour la partie inférieure du loess 3b (figs. 1 inf. et 2), l'unité 2 ayant fourni les dates 20.300 et 20.150 BP. Mentionnons également les dates de 26.180 pour le sommet du gley 7a et du doublet 25.610-25.540 BP pour l'horizon humifère étiré 6b. Pour les unités 5 et 4 on dispose des dates 24.780 pour la base de 5b, de 23.830 pour la base de 5a, de 23.830 et 23.290 pour loess 4c, dates dont le positionnement initial[17] a été quelque peu modifié suite à l'insertion de l'horizon humifère 5a dans la séquence[18].

[15] DAMBLON & HAESAERTS 2007; HAESAERTS *et al.* 2010.

[16] NOIRET *et al.* 2016.

[17] HAESAERTS 2007, fig. 12.

[18] NOIRET *et al.* 2016, fig. 12.

4. VUE D'ENSEMBLE

La séquence revisitée de *Malu Galben*, qui intègre les données réunies entre 2007 et 2012, situe les différents assemblages Aurignacien et Gravettiens au sein d'un enregistrement pédosédimentaire de haute résolution bien daté entre 32.750 et 20.500 BP. Celui-ci fournit de surcroît une signature paléoenvironnementale marquée par une succession d'horizons pédologiques (figs. 2 et 3). D'une part, une série de neuf horizons humifères, dont le degré de développement varie de chernozem (11a) à un horizon incipient de type para-rendzine (8a) et d'autre part une série de 10 horizons déferrifiés de type gley de toundra. Les horizons humifères enregistrent des phases de stabilisation du paysage sous couverture herbacée, en bon accord avec l'augmentation des teneurs en matière organique enregistrée à leur niveau. Ils témoignent de conditions environnementales de type froid médium à boréales en fonction de leur degré de développement (Figs. 3 et 4) et sont rapportés à des épisodes interstadiaires dénommés ici MG-13 à MG-4 par référence à leur position stratigraphique. A l'opposé, les gley de toundra peuvent être rapportés à des épisodes de gel profond, voire de permafrost[19]; c'est le cas en particulier des horizons 7a et 4a qui sont bien documentés dans les trois parois du site.

5. LE CONTEXTE REGIONAL

Malu Galben constitue la pierre angulaire de la séquence régionale, avec les enregistrements remarquables de Molodova V (Ukraine) et de Cosautsi (Moldavie), auxquels nous avons également eu accès entre 1993 et 1998[20]. Cosautsi avec ses nombreuses couches culturelles Epigravettiennes et sa séquence pédosédimentaire complexe bien datée entre 19.500 BP et le début de l'Holocène, complète vers le haut la séquence de *Malu Galben*. Par ailleurs, ces deux enregistrements établissent le lien avec Molodova V qui couvre également la période entre ca 33.000 BP et l'Holocène (Fig. 3). Les corrélations entre les trois séquences proposées ici, furent basées pour l'essentiel sur la comparaison des signatures pédosédimentaires des différentes unités et de leurs datations 14C respectives.

Dans ce contexte, l'insertion du chernozem 11a de la séquence de *Malu Galben*, permet de préciser les corrélations entre sa partie inférieure et Molodova, qui dans le schéma antérieur demeuraient imprécises et ambiguës[21]. Le schéma actuel met le chernozem 11a en parallèle avec l'horizon humifère Mol 10-2 de Molodova daté 30.400 BP, ce qui conduit à situer le limon 10-3 inférieur contenant les couches Gravettiennes 9 et 10 datées 29.700 et 29.400 BP à Molodova, au niveau du limon 10b à *Malu Galben*. De la

[19] VAN VLIET-LANOË 1985.

[20] HAESAERTS *et al.* 2003; HAESAERTS *et al.* 2010.

[21] HAESAERTS 2007, fig. 14.

même manière, le positionnement du loess 4c entre 23.300 et 23.400 suite à l'insertion du paléosol 5a à *Malu Galben*, confirme le parallélisme entre le gley 4a de *Malu Galben* et le gley 12-2 de Molodova.

Enfin, à partir de 2008, nous avons pu adjoindre à la séquence régionale celle du site de Dorochivtsy sur le Dniestr, en amont de Molodova[22]. Situé en position de basse terrasse, comme c'est le cas à Cosautsi, Dorochivtsy présente une couverture loessique de 14 m de puissance incluant plusieurs horizons humifères, avec dans le tiers inférieur plusieurs couches Gravettiennes et une couche Epigravettiene, datées entre 22.330 et 20.500 BP. On dispose de la sorte d'un enregistrement qui renforce le degré de résolution du système, car il complète vers le bas le séquence de Cosautsi et établit un lien avec la partie supérieure de *Malu Galben* (fig. 3).

La conjonction de ces quatre enregistrements complémentaires conduit à l'élaboration de la séquence régionale intégrée pour la période entre ca 33.000 BP et le début de l'Holocène (fig. 4). Celle-ci comprend pas moins de 15 épisodes interstadiaires situés précisément en chronologie ^{14}C (ka uncal BP), autorisant pour la première fois une corrélation bien documentée avec les épisodes climatiques des glaces du Groenland[23].

En parallèle, nous avons figuré la distribution des ensembles culturels Aurignaciens, Gravettiens et Epigravettiens, prenant en compte les données des 4 sites de référence de la séquence régionale (colonne de droite). Nous y avons également figuré la répartition des assemblages attribués à la Culture du Prut[24], pour lesquels seuls les sites associant données pédosédimentaires et datations ^{14}C fiables furent retenus.

A titre de comparaison, la colonne à gauche de la séquence régionale présente la distribution des ensembles culturels à l'ouest des Carpates[25], selon les mêmes critères que ceux régissant la séquence Est-Carpatique. A Willendorf, le Gravettien ancien est associé à l'horizon humifère de la couche 5 daté 30.500[26], en accord avec les relevés et descriptions de J. Bayer[27] et les observations de F. Felgenhauer (1956-1959). Ce serait aussi la position de l'Aurignacien de la couche 2 à Stratzing, datée entre 31.800 et 28.400 BP[28], également associée à un horizon humifère[29]. Pour l'Aurignacien tardif, les sites d'Alberndorf[30] de

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[22] KULAKOVSKA *et al.* 2011.

[23] RASMUSSEN *et al.* 2014.

[24] Cf. NOIRET 2009.

[25] Cf. HAESAERTS *et al.* 2004, figs. 2, 3 et 7.

[26] HAESAERTS *et al.* 1996.

[27] ANTL-WEISER 2008: 121.

[28] NIGST 2012.

[29] NEUGEBAUER-MARESH 2008: 121.

[30] STEGUWEIT & TRNKA 2008.

Milovice[31] et de Breitenbach[32] n'ont pas été pris en compte, car dépourvus de repères stratigraphiques fiables.

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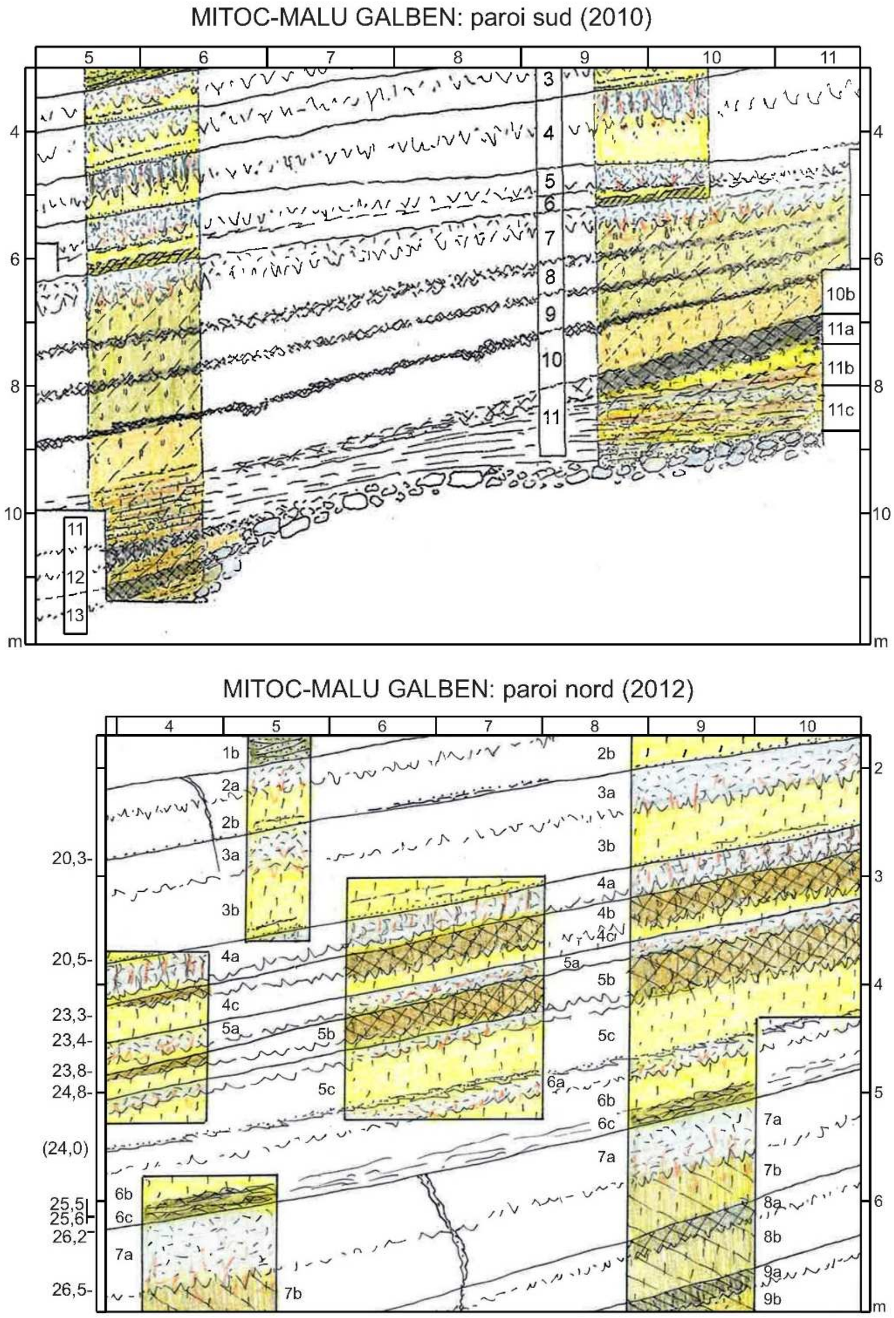

Fig. 1. Mitoc-Malu Galben: relevés complémentaires des parois sud et nord.
Symboles graphiques, cf. Fig. 3.

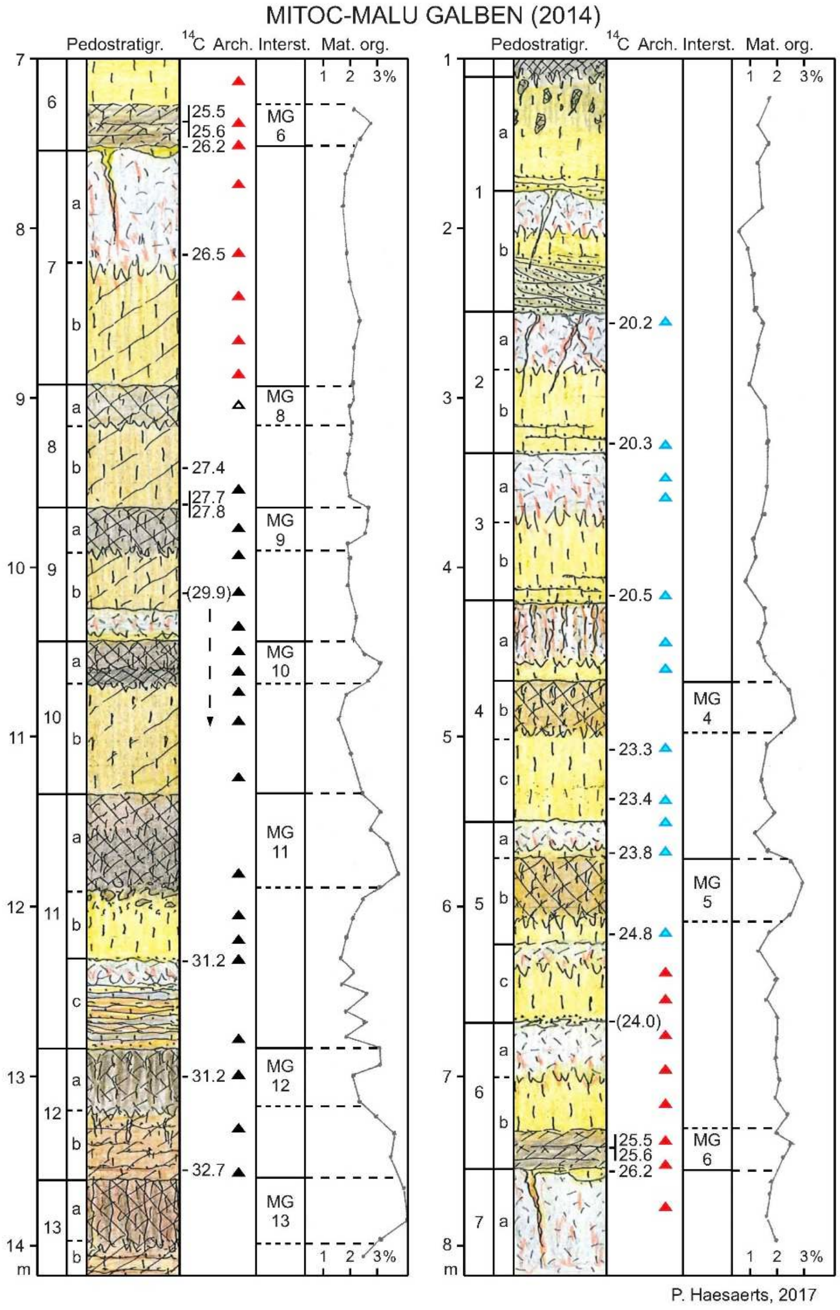

Fig. 2. Mitoc-Malu Galben: séquence pédostratigraphique intégrée (2007-2014)
avec niveaux culturels et dates ^{14}C en ka uncal. BP. Symboles graphiques, cf. Fig. 3.

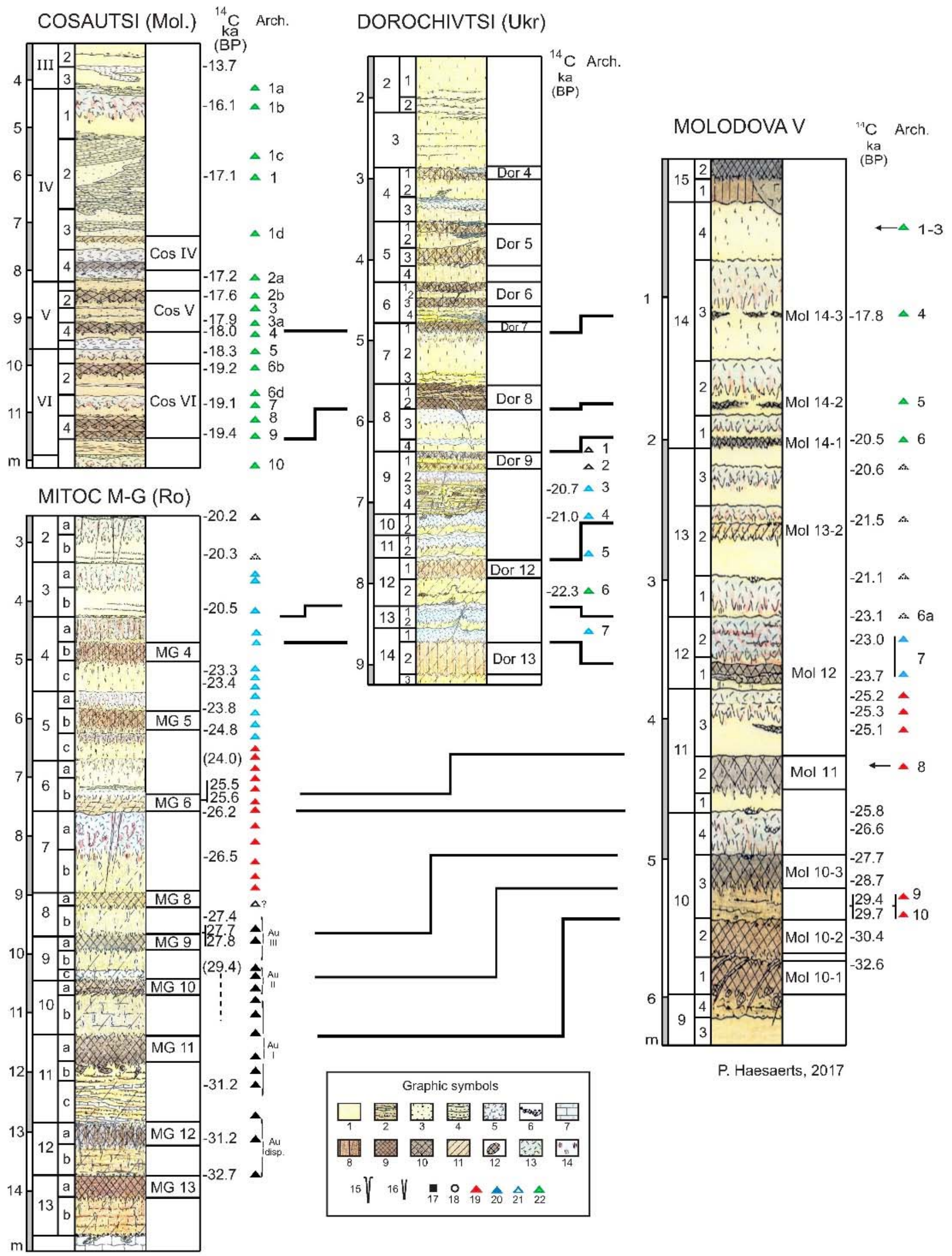

Fig. 3. Séquences de référence du domaine Est-Carpatique avec corrélations proposées (Légende sur le page suivant).

Figure 3. Legende

Symboles graphiques :

1) loess;

2) limon;

3) limon sableux;

4) sable;

5) débris crayeux;

6) cailloutis; 7) calcaire;

8) horizon B illuvié;

9) horizon humifère bien exprimé;

10) horizon humifère bioturbé;

11) horizon ocre pâle bioturbé;

12) Krotovine; 13) gley de toundra;

14) hydroxydes de fer;

15) fente de gel;

16) coin de glace;

triangles noirs: Aurignacien;

triangles rouges: Gravettien inférieur et moyen;

triangles bleus: Gravettien supérieur;

triangles verts: Epigravettien

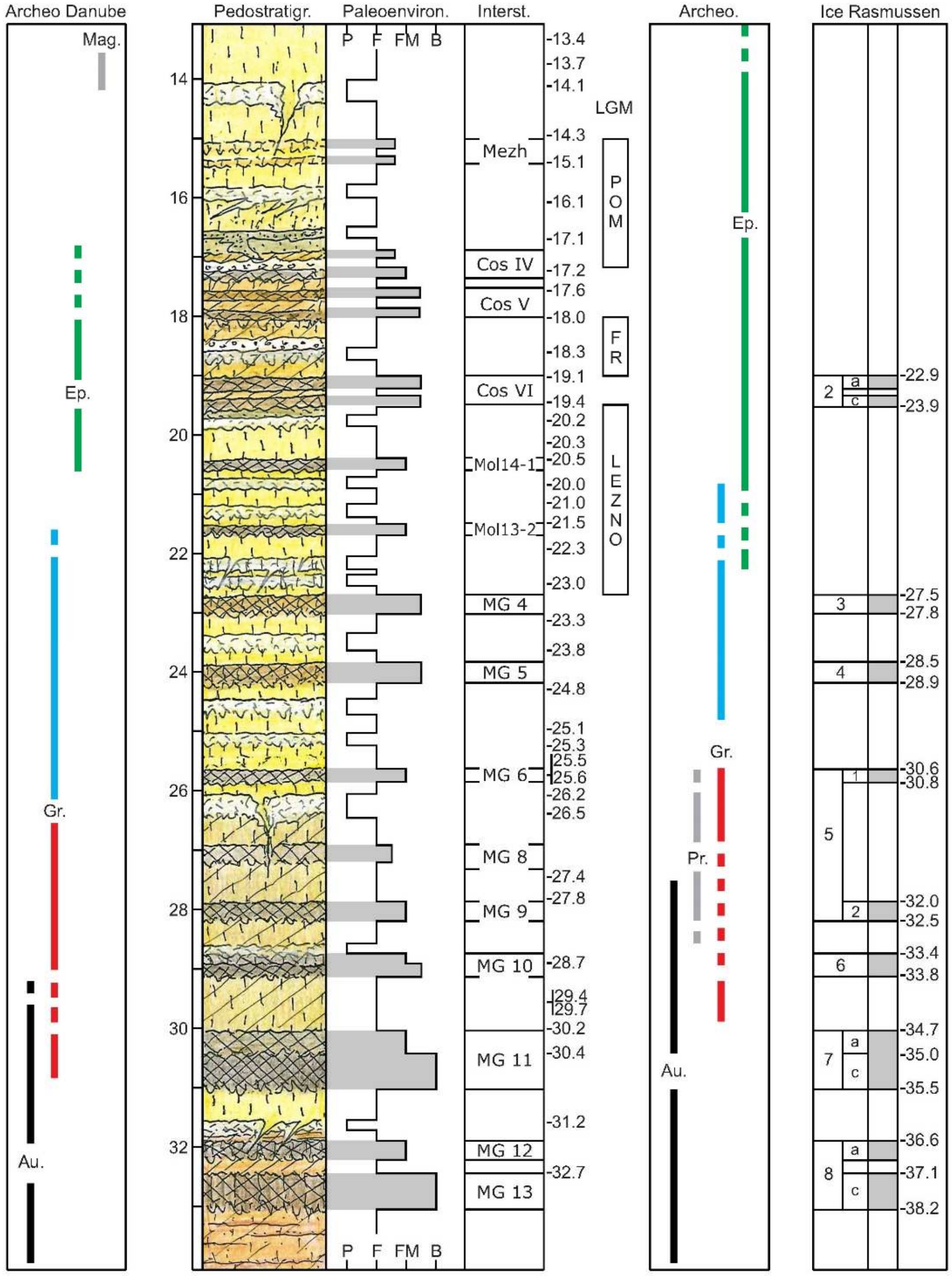

Fig. 4 Séquence pédosédimentaire régionale intégrée (^{14}C ka uncal BP) avec distribution des assemblages culturels, versus la séquence des glaces du Groenland (RASMUSSEN *et al.* 2014) (Légende sur le page suivant)

Figure 4. Legende
Symboles graphiques, cf. fig. 3.

Abréviations:
Paléoenvironnement:
P: périglaciaire;
F: froid;
FM: froid médium;
B: boréal;
LGM: maximum dernier glaciaire;
POM: Poméranie;
FR: Francfort.

Archéologie:
Au: Aurignacien;
Pr: Culture du Prut (cf. NOIRET 2009);
Gr: Gravettien;
Ep: Epigravettien;
Mag: Magdalénien.

UN NOUVEAU TECHNOCOMPLEXE LITHIQUE A MITOC-*MALU GALBEN*: C. 22

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Abstract: The large collection of artefacts discovered through systematic investigations conducted between 1978 and 2016 in the well-known Palaeolithic site located in Mitoc-*Malu Galben* can still provide valuable insights into the Upper Palaeolithic developments in the area. From a stratigraphical and chronological point of view, the Aurignacian and Gravettian layers are fairly well assigned to the 14 lithostratigraphic units, broadly covering the period between 33.000 BP and 23.000 BP. However, further clarifications are due in some instances, such as feature C. 22, which is the focus of the present study. The correct assignment of this feature to unit 7b, coupled with typological and technological analyses, might hold new clues in regards to the first Gravettian habitations in Mitoc-*Malu Galben*.
Keywords: *Mitoc, Upper Palaeolithic, lithic artefacts, typology, raw material*

1. OBSERVATIONS GENERALES

La bien connue station paléolithique de Mitoc-*Malu Galben* offre encore de larges possibilités d'analyse, d'investigation, de valorisation scientifique et de dissémination des résultats de nos recherches. Il s'agit surtout du fait que, dès 2015 déjà, on a repris l'analyse et la vérification de tous les ensembles lithiques (et faunistiques) de cette station du Paléolithique supérieur et refait l'analyse de quelques centaines de milliers de pièces lithiques, du temps des fouilles systématiques déjà (1978-2016), sur des technocomplexes de diverses grandeurs d'espace, mais aussi avec des éléments spécifiques: pièces lithiques découvertes dans les niveaux de remplacement (Aurignacien I inférieur, Aurignacien I, II, III et III supérieur, Gravettien I, II, III, IV et IV dispersé), ateliers de dégrossissage du silex, avec ou sans enclumes en grès ou calcaire, auxquels s'associaient, de règle, des structures

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de combustion, (foyers) de différents types des aménagements (simples, de surface ou légèrement creusés, garnis de dalles de grès, associés à de petits trous pour garder-conserver les charbons, même avec des pièces de silex ou d'os d'animaux, ces dernières résultant de la préparation au feu de la viande des animaux chassés. Sans doute, tout comme les pièces de silex, dans les niveaux de remplacement, donc en dehors des ateliers de dégrossissage (taille) du silex, on a découvert des fragments osseux des animaux chassés dans les communautés d'hommes d'Aurignaciens et de Gravettiens.

Jusqu'à présent, l'ouvrage le plus complet consacré à la grande station paléolithique a été élaboré par des spécialistes de la période (archéologues, paléofaunistes, géologues, dendrologistes, etc.)[4].

En travaillant sur tous les ensembles lithiques de Mitoc-*Malu Galben*, nous avons constaté l'existence de différences parmi les informations publiées dans le volume mentionné et le contenu des petits (ou des grands) technocomplexes lithiques, qui se trouvent en sachets, l'existence donc d'erreurs d'enregistrement des matériaux lithiques. Il s'y trouve aussi le technocomplexe C. 22, non mentionné dans *La monographie Mitoc*, mais nous avons constaté qu'il y a encore d'autres différences d'enregistrement des découvertes lithiques. Nous ne cherchons ni motiver, ni expliquer, nous ne voulons qu'offrir des renseignements les plus complets possible sur nos recherches et sur nos découvertes de l'immense station paléolithique du Prut moyen.

La station paléolithique pluristratifiée de Mitoc-*Malu Galben* se trouve dans le département de Botoșani, près de la confluence du ruisseau Ghireni avec le Prut (à quelque 400 m en amont de la confluence), ayant les coordonnées suivantes: 48°05´52´´ latitude nord, 27°01´23´´longitude est.

Nous précisons que, après avoir pris part pendant plusieurs années aux fouilles systématiques de Mitoc-*Malu Galben*, Paul Haesaerts a réussi à créer un système cohérent d'informations et d'enregistrement des éléments de milieu naturel, pour ce qui est de l'emplacement des niveaux stratigraphiques (au point de vue archéologique) aurignaciens et gravettiens. De ce point de vue, en corroborant les informations sur la séquence litho-stratigraphique avec les données de chronologie absolue, on a constaté que les habitations aurignaciennes et gravettiennes se sont succédé durant une très grande période, comprise entre ± 33.000 ans et 23.000 ans BP (C14, dates non calibrées)[5]. Etant donné que nous intégrerons le *Complexe archéologique 22* dans toute la séquence géo-pédologique et stratigraphique de tout le site, nous estimons nécessaire de faire quelques précisions sur la situation stratigraphique et pédologiques de *Malu Galben*.

Pour tout le profil de 14 m, P. Haesaerts a identifié, du point de vue stratigraphique, cinq cycles pédo-sédimentaires (V-I), avec au moins 14 unités litho-stratigraphiques

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[4] OTTE *et al.* 2007 a.

[5] HAESARERTS 2007: 15.

(numérotés de haut en bas sur l'échelle du profil). Conformément à ce schéma complexe, chaque unité enregistre un épisode de sédimentation limoneuse suivi, généralement, d'une phase de stabilisation avec pédogenèse; vers la partie inférieure du profil (unités 13 à 8), il y a des horizons humifères, mais vers la partie supérieure, on a constaté la présence des horizons gris (unités 7-1). Nous ne voulons pas présenter ou analyser chacune de ces unités litho-stratigraphiques (14-0), mais nous devons essayer d'y introduire la localisation C. 22 dans le schéma général de P. Haesaerts.

Nous avons découvert le *Complexe archéologique 22* (C. 22) dans les carreaux D-E 3-5, à 7 m profondeur, en l'an 1980. Il se situait, donc, sur une surface de quelque 24 m. Mais nous avons constaté que ce complexe archéologique était en concordance avec d'autres technocomplexes lithiques, situation constatée, par exemple, dans le cadre des ateliers de taille 7, 8, 12 (du Gravettien IV), situés en concordance avec d'autres technocomplexes, et on a pu conclure que ceux-ci occupaient toute la surface fouillée à *Malu Galben*, pendant plusieurs années[6]. Ainsi, en sens strict, nous ne pouvons placer la situation de la surface C. 22 que dans le périmètre précisé plus haut, dans une échelle du profil, entre 6,75 m et 7,00 m, mais on peut étendre planimétriquement et en profondeur aussi l'aire C. 22, en association avec d'autres technocomplexes, tel at. 27 (B 3-5, –7,10 m, 1981), (qui avait un grand nombre de pièces importantes, des points de vue technologique et typologique), mais aussi avec d'autres technocomplexes de moindres dimensions, tous s'encadrant dans le niveau I du Gravettien de cette grande station archéologique.

En corrélant nos informations avec celles que fournit P. Haesaerts[7], nous constatons que le niveau I d'habitation gravettienne, auquel on peut situer C. 22, appartient au cycle IV de sédimentation (sa partie supérieure), à l'unité sédimentaire 7b, avec la datation de 27.500 ± 600 BP (OxA-1778) (échantillon d'os brûlé). Mais cette unité sédimentaire, 7b, est certifiée, chronologiquement, par plusieurs datations cohérentes, de chronologie absolue, sur des échantillons de charbon de bois: 26.500 + 460 - 440 BP (GrN-18815); 26.380 + 600 – 500 BP (GrN-18881), 25.080 + 500 - 470 BP (GrN-18882), 26.300 + 450 - 430 BP (GrN-18879), 28.910 ± 480 BP (GrN-12636)[8], qui encadrent le niveau I gravettien d'habitation. Il est absolument nécessaire de faire quelques précisions concernant les encadrements de P. Haesarts[9] et ceux de M. Otte[10]. Nous nous rapportons aux non concordances stratigraphiques précisées par les auteurs des études, notamment en ce qui concerne l'atelier 27, découvert dans les carreaux B 3-5, à la profondeur de –7,10 m, dans le périmètre d'un petit technocomplexe lithique (atelier no 27 avec 4760 pièces lithiques et

[6] CHIRICA, MINEA 2016: 7-36.

[7] HAESAERTS 2007, fig. 11, 12.

[8] DAMBLON, HAESAERTS 2007: 55-56.

[9] HAESARTS 2007: 28, fig. 11

[10] OTTE *et al.* 2007b: 193, fig. 177.

deux âtres et où nous avons découvert la bien connue amulette datée, sur la base des charbons de bois, à 27.100 ± 1500 B.P.

Dans le cadre de l'atelier se trouvait encore un burin dièdre aménagé sur un racloir moustérien, en association avec un grattoir caréné sur lame retouchée; dans plusieurs études, les collègues belges ont considéré que ce petit complexe d'habitation appartient au niveau Gravettien II, mais nous maintenons l'appréciation initiale de sa datation dans le Gravettien I[11]; à notre opinion, l'erreur de P. Haesaerts consiste dans ce qu'il a encadré ce petit technocomplexe dans l'unité sédimentaire 8b, qui est attribuée à l'Aurignacien III supérieur, ce qui est absolument erroné et inexact du point de vue de la stratigraphie générale de Mitoc-*Malu Galben*. N'étant pas archéologue, mais géologue, P. Haesaerts a créé la confusion entre les complexes archéologiques et les unités sédimentaires, dont il est l'auteur. C'est le moment d'y aborder aussi l'inadvertance entre les deux études qui entrent dans La *Monographie Mitoc*: dans les *Annexes* sur l'Inventaire de l'industrie lithique pour les campagnes de fouilles des années 1978-1990 et 1992-1995, on a encadré l'atelier 27[12] dans l'unité 6b, utilisant, probablement, la profondeur que fournit P. Haesaerts: –6,35–6,45m, et le même P. Haesaerts[13] a encadré ce complexe (atelier de taille et deux foyers) dans l'unité 8b qui appartient, comme on l'a dit, à l'Aurignacien III supérieur.

L'atelier à deux foyers, no 27, appartient donc aussi au Gravettien I, tout comme C. 22, et nous y voyons une raison de plus de le présenter et analyser en association avec les deux importants repères archéologiques de Mitoc-*Malu Galben*. Nous précisons encore que non seulement dans le Gravettien IV, mais aussi dans le Gravettien I, il y a des pièces de silex et des restes faunistiques, répandus dans toute la surface fouillée, de même que dans le périmètre des ateliers de taille, de dimensions différentes, avec des technocomplexes lithiques différents quantitativement et qualitativement (types spécifiques de pièces lithiques, mais aussi des outils de facture plus ancienne, réutilisés dans les étapes (niveaux) gravettiennes I-IV de cette grande station paléolithique[14]. En ce sens, nous estimons que les ateliers de taille étaient des accumulations plus ou moins petites ou grandes de pièces lithiques en différentes phases de décortication ou de retouche (donc des traces claires d'intervention humaine), situées de façon aléatoire dans le périmètre de la surface d'habitation. Nous y avons placé ces agglomérations de pièces lithiques (certaines allogènes) dans la catégorie des structures d'habitation – ateliers de taille seulement lorsqu'on a trouvé dans leur composition des rognons ayant des traces de décortication, des enclumes en calcaire, utilisées, des percuteurs en grès, en calcaire ou même en silex, des éclats ou lames corticales, retouchées et d'autres pièces retouchées.

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[11] CHIRICA 1989: 54.

[12] OTTE *et al.* 2007 b: 193, fig. 177.

[13] HAESAERTS 2007: 28, fig. 11.

[14] CHIRICA 2017: 169-255; CHIRICA, CHIRICA 2017: 13-60.

A *Malu Galben* nous avons découvert relativement de nombreux types de matières premières allogènes, soit en silex étranger, appartenant, à notre opinion, à la zone du Dniestr, au Plateau de la Podolie, à d'autres zones géographiques encore inconnues, soit d'autres matières premières: grès, schiste noir d'Audia, etc. Une précision supplémentaire s'impose sur la présence du "silex noir avec du silex blanc" (que nous avons identifiée dans les dépôts naturels de l'espace géographique Mitoc – Miorcani): nous avons constaté que ce type de silex était surtout utilisé à détacher-tailler des pièces macrolithiques, spécifiques aux niveaux aurignaciens, dans le niveau I inf. et I aurignacien[15], mais aussi dans le niveau IV gravettien[16]. De ce point de vue, nous estimons qu'il y a une grande mobilité gravettienne de Mitoc-*Malu Galben* vers d'autres zones géographiques, mais, surtout, la présence de communautés humaines allogènes qui y sont venues avec leurs propres matières premières, mais disposant d'une technique archaïque, par comparaison aux techniques de taille spécifiques au Gravettien local. Ces hommes ont taillé et retouché leurs propres outils, mais n'ont laissé dans le périmètre d'habitation que des éléments secondaires de débitage: éclats et lames, mêmes nucleus corticaux en silex noir à silex blanc.

2. Le complexe lithique 22 (c. 22)

Ce technocompexe lithique se caractérise par la présence de types spécifiques de pièces lithiques, mais aussi par ces survivances aurignaciennes dans le milieu gravettien, aussi s'impose-t-il de présenter sa composante lithique.

- Rabot sur un nucleus épuisé, combiné à un burin dièdre sur troncature, en silex gris, aux taches marronâtres, local (fig. 11/4). On peut y observer les derniers enlèvements de lames microlithiques et moyennes, sveltes. La base de ce nucleus est lisse, pour qu'on puisse l'utiliser aussi comme racloir gravettien. De plus, le tailleur gravettien a laissé, à la base de la pièce, un fragment d'éclat avec un commencement d'enlèvement, afin de pouvoir l'utiliser à couper. Le tranchant du burin, situé dans la partie distale, opposé à la zone active du racloir, est court, mais assez massif, pour garantir l'efficacité de son utilisation. Telles pièces sont assez nombreuses dans les technocomplexes des habitations aurignaciennes, et sa présence dans ce technocomplexe gravettien s'encadre dans l'existence de ces *survivances aurignaciennes dans le milieu gravettien*[17].
- Grattoir convexe-burin dièdre sur troncature retouchée, sur lame moyenne retouché et denticulée, en silex gris pigmenté, local (fig. 12/3). C'est une pièce à caractère technico-typologique gravettien accentué, sur lame plate, mince, avec des pigmentations plus fines ou moins grandes, en fonction des conditions dans lesquelles

[15] CHIRICA, MINEA 2016: 7-36.

[16] CHIRICA, MINEA 2017: 7-36; CHIRICA, CHIRICA 2017: 13-60.

[17] CHIRICA, CHIRICA 2017: 26.

elle est restée dans le sol. Nous croyons que la pièce a été assez intensément utilisée, du fait qu'elle conserve le reflet spécifique, sur la surface dorsale surtout, sur le bord denticulé. La coupe de burin est forte, et, à l'impact entre le coup de burin et la troncature retouchée, on peut voir qu'on l'utilisée.

- Eclat retouché – racloir double droite-concave (fig. 6/3), sur éclat moyen, en silex gris foncé, local[18], inclus dans la catégorie Tresor. C'est une pièce complexe, de tradition plus vieille, moustérienne/aurignacienne[19]. Les deux bords actifs du racloir sont retouchés avec des retouches menues, qui pénètrent aussi dans la surface ventrale (zone faiblement concave). Sur la surface dorsale on observe les négatifs des enlèvements antérieurs, sur des lames plus larges, de même que l'enlèvement d'une lame moyenne svelte. Une lame moyenne a été détachée sur le bord du racloir droit, suite à l'enlèvement des lames moyennes de la surface large, dorsale. Les deux bords du racloir – le droit et le faiblement-concave se rencontrent dans l'extrémité distale, dans une encoche retouchée, peu concave. S'y trouve, semble-t-il, le bulbe de la pièce, mais les ondulations de l'onde de choc paraissent démontrer l'existence du bulbe dans une autre zone de la pièce, éventuellement dans l'espace inexistant de la pièce, due à sa fracture. L'éclat-racloir double a été réalisé en silex local, de très bonne qualité.

- Eclat cortical moyen, retouché sur le bord gauche (racloir convexe?) (fig. 6/1), avec des fracturations sur plusieurs endroits, grâce auxquelles l'aspect de racloir n'est pas fini ou s'interrompt par ces fracturations de l'éclat, inclus dans la catégorie TRESOR. C'est une taille en silex gris foncé, avec des pigmentations blanchâtres, local. Sur la surface, le bulbe est bien prononcé et le talon a des facettes. L'encoche de la zone distale emble avoir aussi de petites retouches d'utilisation, vu l'utilisation multifonctionnelle de la pièce. Il n'est pas exclus qu'il s'y agisse d'une coupe de burin sur la surface ventrale de l'éclat. Nous constatons qu'on a utilisé presque tout support pour la finition d'un outil typique, mais le type de pièce, le mode de taille et de retouche montrent existence de ces *survivances aurignaciennes dans le milieu gravettien*[20].

Dans la catégorie Tresor nous avons inclus un grattoir sur éclat macrolithique fragmentaire, cortical, à néo-cortex, en silex gris, local (fig. 6/2). Cette pièce aussi a des traits plus anciens, aurignaciens, réalisés au premier niveau gravettien de Mitoc-*Malu Galben*[21]. On y a utilisé, comme support, un éclat macrolithique, fragmentaire, en silex local, à granulation très fine, de très bonne qualité technique. Le grattoir est très largement évasé, la retouche se continuant jusqu'au milieu du bord droit. Dans le format actuel la pièce n'a ni bulbe, ni talon. Des enlèvements de petites dimensions se constatent aussi sur

[18] CHIRICA, 2017: 194, D. 13, 440.

[19] CHIRICA, CHIRICA 2017: 28.

[20] CHIRICA, CHIRICA 2017: 28.

[21] CHIRICA 2017: 194, D. 13, 433; CHIRICA, CHIRICA 2017: 28.

certaines portions des bords, sur la surface ventrale. Initialement, nous avons inclus cette pièce parmi les outils à double fonctionnalité – grattoir-burin, mais lors d'une vérification attentive, on constate que la coupe de burin est, en fait, le négatif d'un enlèvement plus ancien, sur lequel s'est placé le néo-cortex. La fracturation semble intentionnelle, car, sur la crête de la pièce, on distingue les traces d'un coup.

– Eclat macrolithique retouchée en silex gris clair, local, de facture appointée (fig. 6/4). La retouche des deux bords peut nous déterminer à encadrer la pièce dans la catégorie racloir double convexe. On l'a bien exécutée, quoique fragmentairement, avec des retouches continues sur les deux bords, le support étant très bien choisi, sans intrusion avec d'autres matériaux, sur une surface ayant pourtant une zone compacte, intrusive, mais de petites dimensions, qui n'a modifié ni la structure du support, ni les qualités de la matière première du support, y compris la nature de la pièce finie. Le bulbe est très bien prononcé, sur presque toute la longueur de la pièce et le talon est bien mis en évidence, sur la surface dorsale existant les petits coups destinés à préparer l'enlèvement. Nous estimons qu'on a voulu réaliser une encoche profonde sur le bord gauche, dans la zone proximale, mais celle-ci n'a plus été retouchée.

– Grattoir double sur éclat cortical, macrolithique, en silex gris foncé, local (fig. 7/4). Le support est représenté par un éclat macrolithique, massif, épais. Les deux fronts étant préparés par le grattoir pourraient représenter, en fait, les éléments d'un nucleus à deux plans de coup, à leur base étant préparées les retouches d'un grattoir double, haut. Des enlèvements de petites dimensions se constatent aussi sur la dorsale des deux bords.

– Lame fragmentaire aux bords retouchés, en silex gris marron claire, pigmenté, non local (?) (fig. 7/2). Les retouches vont jusqu'à la base de la pièce, dans des zones du bulbe, qui occupent toute la largeur de la pièce. Le talon est très petit (2 mm). Nous avons mis la pièce dans la catégorie Tresor, vu son caractère presque unique.

– Lames fragmentaires, aux bords retouchés, tronquées et retouchées, en grès, allogènes (fig. 7/1). C'est un grès très fin, qui s'approche des caractéristiques du silex. Sur une petite surface, du bord gauche, à la base, se conserve le cortex blanc. Les retouches occupent les deux bords et sur le bord droit on a fait une petite encoche retouchée. Toute la pièce comporte aussi un certain caractère de roulement.

– Lame fragmentaire corticale, denticulée sur le bord droit, en silex gris clair, local (fig. 1/6). A l'état actuel, elle a l'aspect d'un éclat, mais nous prenons en considération l'état du support avant la fracturation. Le cortex occupe presque la moitié de la largeur du support. Deux petites encoches sont réalisées sur la surface dorsale, et encore trois, sur la ventrale. La préparation de l'enlèvement de la pièce s'est réalisée par plusieurs petits coups, donnés à la surface dorsale, raison pour laquelle le talon est presque punctiforme (2 mm), et le bulbe occupe presque toute la largeur de la pièce.

– Burin dièdre sur éclat moyen, en silex noir, local (fig. 1/3). La coupe de burin est très petite, ayant l'aspect d'une lame pygmée. Le bulbe est bien développé et le talon presque punctiforme.

– Lame fragmentaire retouchée, en silex gris clair, pigmenté (fig. 1/2). Du fait qu'on constate la présence d'un reflet dû à l'utilisation, nous croyons que la pièce a été fragmentée vu son utilisation intense. Les retouches envahissent le corps des bords, le bulbe semble fragmenté par le coup d'enlèvement et le talon et oblique et a des facettes.

– Lames fragmentaires retouchées, en silex gris clair, pigmenté, local (fig. 5/2), avec les bords partiellement retouchés avec des retouches fines. La lame est fragmentaire, mais svelte, c'est pourquoi le bulbe, quoique non saillant, occupe la largeur de la pièce; le talon est petit et presque lisse. La fragmentation de la pièce s'est faite pendant la taille, car elle est patinée aussi dans la zone de la fragmentation. C'est une pièce spécifique du Gravettien.

– Lame fragmentaire retouchée, à front de grattoir, en silex gris clair pigmenté, local (fig. 1/1). En fait, c'est même un grattoir sur fragment de lame macrolithique, aux bords retouchés. C'est, croyons-nous, l'une des très peu nombreuses pièces ayant les mêmes types de retouches sur le front de grattoir et sur les bords. On n'exclut pas de constater après la fracturation qu'on a essayé d'utiliser la zone tronquée pour des activités de raclage.

– Lame à crête en silex gris local (fig. 9/1), mais nous croyons que c'est, en fait, une chute de burin sur lame moyenne à crête. La pièce à un bulbe très petit, mais saillant, et le talon est punctiforme. La crête est unilatérale, vers la droite. C'est une lame moyenne, svelte, fine, spécifique à unes chute de burin.

– Lame à dos, retouchée, en silex gris, local (fig. 2/5). C'est l'une des très peu de lames moyennes à double retouche à dos de toutes les découvertes paléolithiques gravettiennes de Mitoc-*Malu Galben.* La retouche à dos est plus accentuée sur le bord gauche et plus fine sur le bord droit. La lame este svelte, très étroite, raison pour laquelle le bulbe et le talon sont non significatifs.

– Grattoir sur lame moyenne, corticale, retouchée, en silex noir, local (fig. 1/4).Vers la base, dans la zone du bulbe, le support a un double rétrécissement, plus accentué du bord droit, du type des pièces épipaléolithiques, swideriennes, mais qui ne sont pas retouchées. Sur le bord droit et à la base de la pièce, on constate de petites plages de cortex. Nous remarquons que le bulbe est très petit et le talon se trouve dans la zone corticale. Le support est souple et le front de grattoir est étroit, mais avec des retouches semi-abruptes.

– Burin dièdre sur lame moyenne, en silex gris clair, patiné, local, (fig. 1/5). Le coup de burin est, en fait, un ancien enlèvement longitudinal, sur toute la longueur du support. Un nouveau coup de burin, ainsi que d'autres petits enlèvements du bord droit, crée

l'image d'un burin sur une troncation oblique retouchée. Peut-être a-t-on on utilisé aussi la pièce pour couper, car, du bord droit, on constate l'existence de petites retouches d'utilisation.

– Burin dièdre sur lame moyenne fragmentaire, en silex gris foncé, local (fig. 3/4). La partie active du support se trouve à l'extrémité distale, donc au bout de la lame, où on a donné un coup pour créer le burin dièdre typique. Manquent le bulbe et le talon du fait de la fracturation du support, mais les traces de l'onde de choc illustrent l'existence et la direction des deux éléments techniques. Du bord droit on constate l'existence de très fines retouches d'utilisation.

– Burin dièdre d'angle sur lame fragmentaire, corticale, en silex gris-bleuâtre, patiné, local (fig. 2/6). Le support est constitué d'une lame moyenne, patinée sur les deux surfaces, avec du néo-cortex sur le bord gauche. Sur la fragmentation du bord étroit du support on a appliqué les deux coups de burin, en créant la partie active, robuste, qu'on a d'ailleurs utilisée. La pièce a été doublement fragmentée encore dès le début de la taille. Elle est patinée uniformément dans tout son contour.

– Grattoir sur lame corticale à crête, en silex grisâtre-marronâtre, local (fig. 2/7). La lame est de facture triangulaire, mais aux crêtes elle est partielle et unilatérale, vers la droite. Le front de grattoir est très bien retouché, avec des retouches uniformément réalisées, à partir du bord droit (zone du cortex) vers la gauche et continue sur une portion de ce bord. Absence du bulbe et du talon. C'est une pièce robuste, et la qualité du silex a contribué à ces qualités techniques.

– Burin d'angle sur lame fragmentaire retouchée et partiellement denticulée, en silex gris pigmenté, local (fig. 11/5), au bord droit irrégulier, mais retouché. Le bulbe et le talon sont absents, et les ondes de la trace du choc, très faiblement accentuée, nous permettent d'accepter que le coup de détachement du nucleus a été donné dans la zone de la fragmentation du support.

– Lame fragmentaire à double fracture, retouchée, en silex gris, brûlé, local (fig. 2/9). Il est possible qu'on ait essayé aussi de placer un coup de burin, dans la partie inférieure du bord retouché, qui a pu provoquer la deuxième fracturation du support. Des retouches fines, d'utilisation s'observent aussi sur une petite portion du bord droit. Nous précisons le fait que dans le périmètre du carreau D-E 3-5 nous n'avons pas vu de restes de foyer, de sorte qu'on peut soutenir l'idée que la pièce a été créée (peut-être utilisée aussi) dans une autre zone de la station, d'où on l'a apportée (par des processus géo-pédologiques peut-être) dans le périmètre de l'agglomération de matériaux lithiques, là où on l'a trouvée.

– Grattoir sur éclat, en silex gris très clair, brule, local (fig. 2/10). L'association spatiale avec la pièce présentée antérieurement nous semble intéressante, soit afin d'en déduire l'existence de microphénomènes géo-pédologiues (processus de versant), soit l'existence de structures de combustion, détruite par les mêmes phénomènes géo-

pédologiques possibles. L'éclat est petit et presque rond et le front de grattoir a été certainement créé avant de brûler le support. Le bulbe du support est très mis en relief occupant toute la largeur de l'éclat presque, et le talon est large et oblique.

– Lamelle fragmentaire à dos, très mince, svelte, en silex gris foncé, local (fig. 2/1). Sa réalisation dont le but est pratiquement difficile à comprendre, témoigne le stade technique important de la taille et de la retouche des supports lithiques à Mitoc-*Malu Galben.*

– Lamelle en silex gris foncé, local (fig. 2/2), qui peut représenter un enlèvement nécessaire à la préparation du nucleus pour les enlèvements suivants. Le bulbe petit, le talon punctiforme, ainsi que certains enlèvements millimétriques permettent de la placer parmi ces chutes de burin de dimensions très réduites.

– Lamelle à crête unilatérale à droite, en silex gris, local (fig. 2/3), constitue une nouvelle preuve de la spécialisation des communautés humaines de Gravettiens de Mitoc-*Malu Galben.* Ce que nous avons appelé *la crête* peut représenter, en fait, un front de grattoir large, sur éclat, mais on a renoncé à ce type d'outils, car on a donné un coup de burin, par lequel on a mis en évidence un bulbe très petit et un talon punctiforme (1mm).

– Eclat cortical retouché sur le bord droit, à des retouches fines d'utilisation sur le bord gauche, à une très petite crête sur la surface dorsale, en silex gris foncé local (fig. 3/6). Il y a encore deux petites encoches sur le bord gauche, une sur la surface dorsale, une autre sur la surface ventrale. Le bulbe occupe toute la largeur de la pièce, mais il y a une coupe pour l'enlever. Le talon est très étroit, lisse. Sur la surface dorsale on observe les enlèvements antérieurs de lames et la présence du cortex indique, encore une fois, qu'à Mitoc-*Malu Galben* il y avait des périodes pendant lesquelles les supports sans cortex manquaient, ainsi qu'il s'imposait d'utiliser toutes les possibilités en vue d'enlever et de retoucher les pièces.

– Burin sur lame fragmentaire, tronquée, en silex gris-bleuâtre, patiné, local (fig. 3/3), ayant une utilisation intense, sur la base des petits coups de burin qui accompagnent la partie active. D'ailleurs, sur le bord droit aussi, on peut observer de petits coups de burin, formés par l'utilisation répétée du support. On a réalisé la pièce sur une lame moyenne, mais massive, patinée grâce aux conditions chimiques du sol. Le bulbe est massif, occupe toute la largeur de la pièce et le talon est lisse, mais a une forme presque trapézoïdale, à cause des enlèvements antérieurs de la surface dorsale. L'existence du négatif d'une lame étroite, svelte, peut démontrer ici encore qu'on a essayé de réaliser un front de burin.

– Grattoir sur éclat retouché, en silex gris clair, local (fig. 3/5). C'est une pièce classique pour les technocomplexes du Paléolithique supérieur dans une large zone géographique européenne. Il a les bords retouchés, le front de grattoir bien mis en relief (le support étant un éclat moyen, mais assez épais, afin de créer la valeur

utilitaire de la pièce). Nous n'excluons pas l'éventualité que l'existence du négatif d'un enlèvement sur le bord gauche, près de la base de la pièce, ait constitué l'intention de créer le support encore d'un front de burin, afin de le rendre multifonctionnel. On n'observe pas l'existence du bulbe, mais la pièce a un possible talon de forme triangulaire, créé par les négatifs des enlèvements antérieurs.

– Une superbe lame macrolithique, non retouchée, svelte, en silex blanchâtre, détachée d'un nucleus de grandes dimensions par des coups particuliers au Gravettien, appartient toujours à C. 22 (fig. 3/1). Il n'a pas de retouches, mais les observations attentives montrent qu'on l'a utilisée à la taille, avec les deux bords. Sur la surface dorsale on remarque aussi les négatifs des enlèvements de lames minces, très sveltes. Le bulbe est très faiblement accentué et le talon est oblique et petit (3 mm). Pour garantir un enlèvement de qualité du nucleus, dans la zone proximale de la surface dorsale on a réalisé quelques enlèvements micro-lamellaires.

– Grattoir sur lame corticale, en silex gris clair, local (fig. 4/5). La pièce est relativement de petites dimensions (le support est une lame moyenne) à deux petites plages corticales sur la surface dorsale. Un petit accident des négatifs des enlèvements sur la surface dorsale peut lui donner l'aspect de grattoir caréné atypique. Les retouches des deux bords montrent l'utilisation certaine, car ils sont doublés par des enlèvements millimétriques, sur les deux surfaces. Le bulbe est très faiblement accentué et le talon est très petit (2 mm).

– Grattoir sur lame moyenne fragmentaire, retouchée, en silex gris très clair, patiné et pigmenté, local (fig. 4/4). Par le caractère de la taille et de la retouche, par la patine du support, on peut considérer cette pièce aussi de caractère gravettien des points de vue typologique et technologique. Il a les bords retouchés et une encoche large, sur l'un des bords. Sa fragmentation ne permet pas d'emplacer le bulbe et le talon, mais les traces de l'onde de choc permettraient l'idée que l'enlèvement du support s'est réalisé à partir de la zone du front de grattoir. La patine totale et uniforme de la pièce nous font croire qu'elle fût située dans les conditions spéciales des dépôts géo-pédologiques de *Malu Galben.*

– Lame appointée, retouchée, en silex gris clair-blanchâtre, patiné, local (fig. 3/2). Il s'agit d'une très belle lame macrolithique réalisée de manière complexe: appointée, aux bords retouchés, d'enlèvements antérieurs de lames étroites, très sveltes, sur la surface dorsale, et les retouches semi-abruptes ont envahi, parfois assez considérablement la surface dorsale du support. Par les enlèvements micro-lamellaires de la zone proximale, l'impression se crée qu'ici encore on a fait des retouches en vue d'amincir la zone proximale, du talon et du bulbe. La pièce étant très svelte, le bulbe recouvre toute la largeur du support, et le talon est lisse et étroit (3 mm). Tout comme une pièce antérieure (fig. 3/1), cette lame s'est trouvée en conditions spéciales avec des composés chimiques qui ont déterminé l'uniformité de sa patine.

- Grattoir sur éclat macrolithique, en silex gris clair, local (fig. 4/1). Un éclat macrolithique, massif à sa base d'enlèvement, a été retouché avec un front de grattoir étroit, car cette partie du support est amincie et rétrécie. Si l'on regarde la pièce avec le front de grattoir en haut (elle n'a pas de bulbe et de plan de frappe), on peut en déduire que le bord gauche du support a été intensément utilisé, car il a une encoche large et profonde, mais aussi des retouches d'utilisation sur le même bord. Ici encore il y a une petite zone retouchée, et, sur le bord opposé, il y a plusieurs enlèvements de petites dimensions, toujours par l'utilisation probablement. La massivité du "manche" nous donne l'idée de la préparation de cette pièce pour des travaux difficiles comme intensité et durée.

- Grattoir sur lame macrolithique, à crête, en silex gris, local (fig. 4/2). Le support est représenté par une lame à crête, dans toute sa longueur, nécessaire à la préparation pour d'autres enlèvements.

- Lame fragmentaire, retouchée sur les deux bords, en silex très clair, local. Dans la position représentée (fig. 4/3), le bulbe et le talon manquent, mais la frappe d'enlèvement du nucleus est donnée sous la fracture du support. Dans la partie supérieure, dorsale, étroite, surtout, les retouches recouvrent presque la moitié du corps de la pièce. On a retouché même l'extrémité distale, et, sur le bord droit, on a retouché deux petites encoches.

- Burin dièdre double sur lame moyenne retouchée, en silex gris très clair, marronâtre, local (fig. 4/6). Dans la position que nous représentons, le support a le bord droit retouché avec de larges retouches, qui envahissent une grande partie de la surface dorsale. Le bulbe et le talon manquent. Chaque partie active a été réalisée par des enlèvements lamellaires, petits, sveltes. Le burin a été utilisé intensément, sur les deux parties actives.

- Burin dièdre sur lame moyenne retouchée, en silex gris clair-bleuâtre, local, patiné (fig. 5/6).

- Lame à crête, du type d'une chute de burin sur lame moyenne à crête unilatérale à droite, en silex gris foncé, local (fig. 5/5). La crête est partiellement rectiligne, partiellement en zigzag, en fonction des enlèvements antérieurs du nucleus, afin de préparer cet enlèvement. Le bulbe est très petit et le talon punctiforme (2 mm).

- Lame macrolithique aux bords retouchés, en silex gris clair, pigmenté (fig. 5/4, la retouche recouvrant aussi l'extrémité distale du support (comme la lame fragmentaire de la fig. 4/3). Le coup d'enlèvement du nucleus a été donné dans la partie inférieure du support, marqué par une légère mise en évidence du bulbe; le talon a été supprimé par plusieurs enlèvements lamellaires.

- Grattoir sur lame moyenne aux bords retouchés, en silex gris clair, mat allogène, de la zone de Dniestr (fig. 5/1). La pièce a l'aspect d'un grattoir caréné, mais de moindres dimensions. Afin d'atténuer la massivité du support, sur la surface dorsale, on a

recours à l'enlèvement d'une lame très étroite, dans toute la longueur du support. Sont absents bulbe et talon, mais les retouches recouvrent tout le contour du support. Nous constatons, dans ce technocomplexe, une nouvelle spécialisation de la taille du silex: recouvrement de tout le contour du support avec des retouches continues.

– Grattoir sur lame moyenne, en silex gris clair, local (fig. 5/3). Le support est constitué d'une lame moyenne non retouchée, avec la transformation de l'extrémité distale en front de grattoir convexe.

– Pour des comparaisons avec les pièces finies du Complexe-atelier 27 (B 3-5, –7,10 m), datées à 27.100 ± 1500, appartenant aussi au niveau I gravettien de Mitoc-*Malu Galben*.

3. L'ATELIER DE TAILLE NR. 27. COMPOSANTE LITHIQUE:

– Pendeloque en cortex de silex, découvert en 1981, carrés B 3-5, –7,10 m, atelier 27, à deux foyers et un atelier de taille à 4760 pièces en silex (déchets, restes de débitage), un racloir de facture plus ancienne, moustérienne, réutilisé même comme burin dièdre, cinq grattoirs et une pointe de La Gravette. Un grattoir est caréné sur lame retouchée. La pendeloque (la célèbre amulette) a été réalisée en cortex de silex[22], de forme presque ovale, dont la base est légèrement concave. Elle mesure 3,4x3,4x0,8 cm et est perforée à la partie supérieure, à partir des deux faces vers l'intérieur. Elle est décorée avec des incisions sur le contour et à la base. Les décorations sur les deux surfaces sont réalisées même avec des incisions, représentent la stylisation d'un cervidé (sur la face supérieure) et la silhouette humaine sur la face inferieure (fig. 13/1)

– Racloir moustérien réaménagé burin dièdre silex gris clair, sur éclat massif, intensément patiné sur une partie de la surface dorsale, gris très clair à la surface ventrale (fig. 13/2). L'éclat est macrolithique, ovale, à la surface ventrale lisse. La base est tronquée obliquement. Sur la surface dorsale il y a une plage de néo-cortex de couleur grise. Le bord gauche est partiellement retouché au moment où fut créé le racloir ; ce bord, de même que le bord opposé, sont recouverts tous les deux de larges enlèvements, sur 1/3 de la surface dorsale. Des retouches, partiellement irrégulières, se trouvent aussi sur le bord droit, vers la base de la pièce. On a donné les coups de burin ultérieurement, lorsqu'on a ôté le silex blanc patiné, sur les deux bords, afin de créer une partie active forte, mais sur le bord gauche on a réalisé des retouches sur le silex gris clair. Précisant que le bord droit aussi, dans la zone active du burin, est retouché, on peut avoir l'image d'autres fonctionnalités: celle de racloir.

– Grattoir caréné sur lame macrolithique retouchée, massive, triangulaire. En silex gris foncé, local (fig. 13/3)[23]. Le support est constitué d'une lame macrolithique, massive,

[22] CHIRICA, NOIRET 2007: 244, fig. 2/1; CHIRICA 2017: 182, D. 7, 42.

[23] CHIRICA 2017: 183, D. 7a, 167.

type à crête unilatérale vers la gauche, avec des retouches fines d'utilisation sur les deux bords. On ne peut pas savoir quand s'est produite la fracturation, mais ne se conservent ni bulbe, ni talon. Toute la surface ventrale est lisse, même lorsque nous observons les traces de l'onde de choc de l'enlèvement du nucleus. Vu la valeur technico-typologiques, on a placé ces deux pièces dans le Trésor du patrimoine mobile de Mitoc-*Malu Galben*.

– Grattoir-burin sur lame macrolithique, en silex gris à une tache blanchâtre à la partie proximale, qui a pénétré dans la masse du silex gris (fig. 10/2). Le front de grattoir est rond, très bien retouché, avec une petite surface à crête vers la zone proximale. Sur le bord gauche on observe de fines retouches d'utilisation. Le coup de burin a été donné dans la partie distale, profitant d'une anomalie naturelle de l'enlèvement.

– Grattoir sur lame macrolithique corticale (10,2 cm), au front de grattoir assez évasé, réalisé sur l'ancien coup d'enlèvement, par la suppression du bulbe; (fig. 10/3); les traces des ondes de choc du coup d'enlèvement sont bien évidentes sur la surface ventrale. Sur la surface dorsale se conservent les négatifs des enlèvements lamellaires y compris les traces de l'onde de choc d'un enlèvement.

– Lame moyenne à bord gauche retouché, mais sur le bord droit aussi on constate l'existence de retouches d'utilisation, en silex gris, local (fig. 10/4). Le bulbe est très petit et le talon est punctiforme. Les traces de l'onde de choc sont évidentes dans toute la longueur de la surface ventrale.

– Grattoir sur lame moyenne fragmentaire avec les bords retouchés, en silex gris foncé, local (fig. 10/5). Les retouches, sur les deux bords, sont d'utilisation et le front de grattoir est bien mis en relief sur le support lamellaire.

– Grattoir sur lame macrolithique (8,5 cm), en silex gris aux taches plus claires (fig. 10/1). Le support a de petites plages à cortex, et sur le bord gauche on observe l'existence de fines retouches d'utilisation.

– Eclat cortical de type appointé, partiellement retouché (fig. 9/2), en silex gris foncé. Sur le bord droit, arqué, il y a une plage entière de cortex et, à la base, une portion à néo-cortex. Le bulbe est bien mis en relief et le talon se trouve sur le néo-cortex. On constate aussi le fait qu'à la base, dans la zone du bulbe, le support est patiné, bleuâtre, et le reste de la pièce est du silex gris foncé. Dans la zone de la pointe, les retouches des deux bords complètent l'aspect de pièce appointée.

– Lame moyenne à crête, svelte, que l'on peut confondre avec une pièce de type à dos (fig. 9/1), à petits enlèvements, de type à crête, non avec des retouches abruptes (à dos), comme on l'a considéré initialement[24]. Le bulbe est très petit et le talon,

[24] CHIRICA 2017: 219, D. 5, 183

punctiforme. Le support est faiblement courbé, et on peut le confondre avec une chute de burin sur lame moyenne.

– Lame moyenne à troncature oblique retouchée, en silex gris (fig. 8/1), considérée aussi comme grattoir oblique sur lame moyenne[25]. Le bulbe est recouvert sur presque toute la longueur du support et le talon est très étroit (2 mm).

– Grattoir sur lame moyenne à néo-cortex, à fines retouches d'utilisation sur les deux bords (fig. 9/4). Le support est triangulaire, à petites pigmentations gris clair. Le bulbe est très petit, saillant et avec des traces de l'onde de choc, et le talon est très étroit. (2 mm).

– Grattoir sur lame moyenne fragmentaire, en silex gris clair, mat, local (fig. 8/5), sans bulbe et sans talon, à cause de la fracturation. Le support en silex mat peut nous déterminer à le considérer comme pouvant appartenir à la zone du Dniestr.

– Lame moyenne non retouchée, en silex gris, local (fig. 9/3), avec des traces d'utilisation sur les deux bords. Le support est peu courbé, le bulbe est petit et le talon est punctiforme.

– Grattoir sur éclat moyen cortical, en silex gris foncé, local (fig. 9/5), au front de grattoir dans la zone du bulbe supprimé par les retouches de finition. Il n'a pas de talon, pour la même raison. On peut observer quelques faibles enlèvements dans la partie inférieure du bord droit, dans la zone du cortex.

– Lame moyenne à retouches sur certaines portions des deux bords, en silex gris (fig. 8/2), à bulbe petit, saillant et avec des traces de l'onde de choc, à talon très petit (2 mm). On l'a considéré aussi de type appointé[26].

– Burin sur éclat macrolithique cortical, partiellement à crête, en silex noir, local (fig. 8/3), avec deux petites plages à cortex. On a supprimé bulbe et talon, dans la zone inférieure, où l'on a donné le coup d'enlèvement. C'est un support massif, le coup de burin est bref, mais fort, la pièce étant utilisée pour des travaux difficiles.

– Pointe (pic) sur éclat retouché, en silex noir, local (fig. 8/4), avec des retouches sur les deux bords et aussi sur la surface ventrale des deux bords. Dans le centre du support il y a une grande tache, de couleur gris clair. En fracturant la pièce on a supprimé bulbe et talon.

– Grattoir sur lame retouchée, en grès grisâtre-jaunâtre, allogène. Le support est retouché sur les deux bords jusque dans la zone du bulbe qu'on a supprimé, de même que le talon supprimé par la retouche du front de grattoir. Sur le bord gauche, les retouches sont marquées surtout sur la surface ventrale du support, et, sur le bord droit, sont visibles les retouches d'utilisation, mais, dans la partie inférieure et à la base

[25] CHIRICA 2017: 219, D. 5, 184

[26] CHIRICA 2017: 221, D. 5, 191

de la pièce, les retouches sont très bien exécutées, comme pour d'autres pièces de *Malu Galben,* où on a retouché aussi la base de la pièce sous la forme typologique d'un grattoir double (fig. 12/5).

– Grattoir sur lame retouchée, en grès grisâtre-jaunâtre, allogène. Le support est retouché sur les deux bords, jusqu'à la zone du bulbe qu'on a supprimé, ainsi que le talon, supprimé par la retouche du front de grattoir. Sur le bord gauche les retouches sont marquées surtout sur la surface ventrale du support, et sur le bord droit sont visibles des retouches d'utilisation, mais, dans la partie inférieure et à la base de la pièce, les retouches sont très bien réalisées, tout comme pour d'autres pièces de *Malu Galben,* où on a retouché aussi la base de la pièce sous la forme typologique d'un grattoir double (fig. 12/2.).

– Grattoir sur lame moyenne, avec des retouches sur les deux bords, en grès jaunâtre à des intercalations grisâtre-marronâtres. Le support conserve le bulbe très petit et le talon est linéaire-punctiforme. Les retouches sur les deux bords sont bien exécutées et le front de grattoir est bien délimité. Sur la surface dorsale, dans la zone du talon, l'enlèvement du support du nucleus a été préparé par de petits enlèvements. Le support est légèrement recourbé, triangulaire en profil (fig. 11/2).

– Lame macrolithique en silex gris foncé, local (fig. 11/1). C'est une lame entière, et le coup d'enlèvement a été donné dans l'angle de sa base, à droite, en bas, vu le bulbe minuscule, le talon ne pouvant pas être observé. Les traces de l'onde de choc sont visibles dans toute la longueur de la surface ventrale. Sur les deux bords il n'a que de petites traces d'utilisation.

– Lame macrolithique appointée, avec des retouches sur les deux bords, en silex gris clair (fig. 11/3), y compris à la pointe (l'extrémité distale), qui lui confère l'attribut technico-typologique appointé. Sur les deux surfaces elle a à raison d'une petite plage de cortex. Le bulbe est petit, mais on peut le distinguer et le talon est triangulaire, presque punctiforme (3 mm).

– Lame moyenne retouchée et à troncature oblique retouchée, à néo-cortex (fig. 12/6) en silex grisâtre-bleuâtre. Par la retouche oblique, qui devient partie active, on a supprimé le néo-cortex, tout comme sur le bord droit, entièrement retouché. Vu la direction de l'onde de choc, il semble que le coup d'enlèvement a été donné dans la partie supérieure, et la troncature (retouchée) a supprimé et le bulbe et le talon. Par la retouche oblique, qui devient partie active, on a supprimé le néo-cortex, de même que sur le bord droit, retouché en totalité. Vu la direction de l'onde de choc, il semble que le coup d'enlèvement a été donné à la partie supérieure et la troncation (retouchée) a supprimé aussi bulbe et talon.

– Il y a une lame macrolithique (8,5 cm), non retouchée qui a, sur les deux bords, des traces d'utilisation, et elle est taillée en silex gris, local. Le bulbe est faiblement saillant

et le talon est dièdre, oblique (3 mm). C'est l'une des peu de lames entières, avec des traces d'utilisation de la station paléolithique.

4. Conclusions

Sur toute la surface recherchée par des fouilles systématiques, du niveau Gravettien I, on a constaté l'existence de nombreux technocomplexes, plus ou moins grands, à attributs d'atelier de taille et avec des pièces (outils) finies, de valeur technologique et typologique. Nous ne nous rapportons qu'aux découvertes que nous avons faites, que nous avons encadrées en espace (plan) et en profondeur, vu que nous avons constaté des anomalies évidentes ou de circonstance, dans les éléments d'encadrement établis par les collègues de Liège et/ou de Bruxelles. Nous n'y donnons que l'exemple de l'atelier 27, que nous avons présenté ci-haut et sur lequel nous ne revenons pas. Nous observons seulement le fait que, quoiqu'on opère avec des données certaines, aux points de vue planimétrique et par profil (profondeur), il y a certains non concordances entre nos opinions et celles de nos collègues, en fonction du profil des spécialistes (archéologues ou géologues). Nous ne revenons plus sur ces discussions, que nous aborderons dans le prochain volume de la classification du Patrimoine archéologique mobile, soit dans la II-e édition de *La monographie Mitoc,* de 2007.

Donc, à la profondeur *apparente* de –7,00, –7,20 m (en prenant ou non en considération tout le profil des deux directions) nous avons découvert de petits technocomplexes lithiques: E 1 et E 6, –7,10 m, 1983, C 2, –7,00 m, 1982, B 4, –7,00 m, 1980, D 1, –7,00 m at. 23, 1980, G 1, –7,05, at. 57, 1985, B 2 și B 3, –7,00 m, 1980 (certains attribués à l'unité litho-stratigraphique 6a, donc niv. II gravettien). Pendant les années d'intense collaboration avec les collègues belges, ceux-ci ont calculé la profondeur des découvertes d'une manière spéciale, mais qui ne concorde pas avec la nôtre, "classique" pour le niveau archéologique Gravettien II: N3-231, –6,16 m, 2013, N3-1440, –5,57 m, 2015, N3-535, –6,30 m, 2013, M4, –5,97 m, 1993, M6, –5,75 m, 1992, M4, –5,97 m, 1993, M4, –5,90 m, 1992, N2-174, –6,40 m, 2013, N2-461, –7,63 m, 2013, etc., attribuée à de très petits technocomplexes du Gravettien I ou II.

Revenant à nos attributions concernant le Complexe 22 et l'atelier 27, nous constatons l'existence de différenciations, non seulement technologiques et typologiques, mais de matière première aussi. Ainsi, si dans le C. 22 nous n'avons qu'une pièce en grès (allogène), le reste des matériaux étant taillé en silex local, dans at. 27, les pièces retouchées sur des supports de grès ou de silex allogène se multiplient avec des produits de la zone des Carpates Orientales, de la zone de Dniestr, d'Ukraine (Podolie?). Cette constatation nous permet de considérer que, dans le périmètre 27, on a apporté des matières premières allogènes, soit par une plus grande mobilité des communautés locales de *Malu Galben*, soit qu'y ont habité et taillé des outils en silex d'autres communautés humaines, venues là avec leurs propres matières premières ou avec leurs propres outils exécutés à partir d'autres

matières premières issues d'autres espaces géographiques. Nous avons aussi des exemples des niveaux aurignacien I et I inf., ou du niveau gravettien IV, où la présence du "silex noir ou blanc" appartient avec certitude à des communautés humaines non locales, qui y ont apporté leurs propres matières premières, mais ont taillé leurs outils d'une manière technologique et typologique plus ancienne, revenant au caractère macrolithique des enlèvements. Nous avons aussi l'exemple des pièces typiques de C 22, représenté par des outils de facture typologique plus ancienne, aurignacienne: pièces à crête, grattoirs carénés, racloirs, éclats retouchés, pièces sur éclats (mais aussi de type à dos, qui impriment la caractéristique typologique gravettienne), mais on n'a pas trouvé de telles pièces dans le technocomplexe at. 27 excepté les lames appointées ou à dos. D'autre part, nous n'excluons pas la possibilité qu'il y a eu des phénomènes géo-pédologiques (produits par le versant) qui ont pu modifier, soit-il partiellement, la composante des technomplexes lithiques des différentes micro-zones du niveau I gravettien de Mitoc-*Malu Galben*.

Nous considérons utile d'aborder quelques aspects concernant l'importance des découvertes aurignaciennes et gravettiennes de Mitoc-*Malu Galben* dans le cadre des civilisations contemporaines européennes. Par l'organisation des deux colloques internationaux à Iași, en janvier 2016, sur les communautés humaines aurignaciennes et leur création matérielle et spirituelle, respectivement, en mai, 2017, sur les communautés humaines de Gravettiens et leur création matérielle et spirituelle, on a créé la possibilité d'argumenter sur les relations qui peuvent s'établir entre les découvertes paléolithiques, aurignaciennes et gravettiennes de Mitoc et certaines découvertes de l'Europe est-centrale[27].

L'aurignacien III de Mitoc contient des matériaux archéologiques *in situ*[28], on ne peut donc pas démontrer l'existence de phénomènes géologiques qui auraient pu entraîner la situation initiale des découvertes lithiques ou faunistiques. On apprécie que les habitations de l'Aurignacien III de Mitoc soient postérieures à l'Aurignacien bien daté de 31 kyr BP. Cet encadrement a été confirmé aussi par Luc Moreau qui précise que l'Aurignacien de Mitoc est plus ou moins contemporain avec l'Aurignacien récent et avec les premières manifestations gravettiennes en Europe Centrale[29], prenant en considération les découvertes de Breitenbach (Allemagne), les deux étant des stations de plein air, situées à proximité d'affleurement de silex crétacé de très bonne qualité. Ainsi que d'autres niveaux d'habitation aurignacienne de l'espace géographique de l'Europe Centrale, ceux de Mitoc-Malu Galben (unités 8b inf. et 9b) ont des âges plus récents de 29.500 BP, période durant laquelle l'Europe Centrale était déjà habitée par des communautés gravettiennes. Mais nous avons constaté que, bien qu'à Mitoc (niv. Aurignacien III și III sup.) il y ait de nombreuses pièces sur éclats, la production a été orientée vers la fabrication des outils sur

[27] ANGHELINU 2016: 137-167; ANGHELINU *et al.* 2017: 61-77; CHIRICA 2016 a: 169-255; NIGST 2016: 99-136; TOUZÉ 2016: 71-97.

[28] NOIRET *et al.* 2016: 28.

[29] MOREAU 2016: 51-70.

lames et lamelles, élément important pour faire des diagnostics sur les caractéristiques techniques et typologiques des ensembles lithiques pris en considération.

Quant à l'A*urignacien récent* (Aurignacien III et III sup. de *Malu Galben*) et l'évolution des communautés humaines, notamment la technologie et la typologie lithique des habitations gravettiennes de cette grande station préhistorique, nous constatons la présence de niveaux d'habitation presque non interrompus, ce qui montre non seulement l'existence des conditions de milieu particulièrement favorables aux habitations humaines, mais encore des éléments de transition entre l'*Aurignacien récent* et les premiers technocomplexes gravettiens d'ici[30].

En conclusion, nous considérons qu'en finalisant nos études sur les composantes technologiques et typologiques de cette très grande station pluristratifiée nous pourrons avancer encore d'autres propositions d'encadrement culturel, de nouvelles opinions concernant la présence des matières premières locales et allogènes, y compris les composantes ethniques, d'autres points de vue, importants, sur les habitations humaines d'ici, soit dans le contexte du Paléolithique supérieur ancien et récent, soit sur les composantes paléofaunistiques[31], botanique[32] ou d'autre nature des habitations humaines de la période de plus de 10 millénaires d'habitation presque ininterrompue, dans le contexte du Paléolithique supérieur de l'espace est-central européen.

[30] LIBOIS *et al.* 2017: 78-90.

[31] CHIRICA 2016b; MĂRGĂRIT 2016.

[32] DAMBLON *et al.* 2017.

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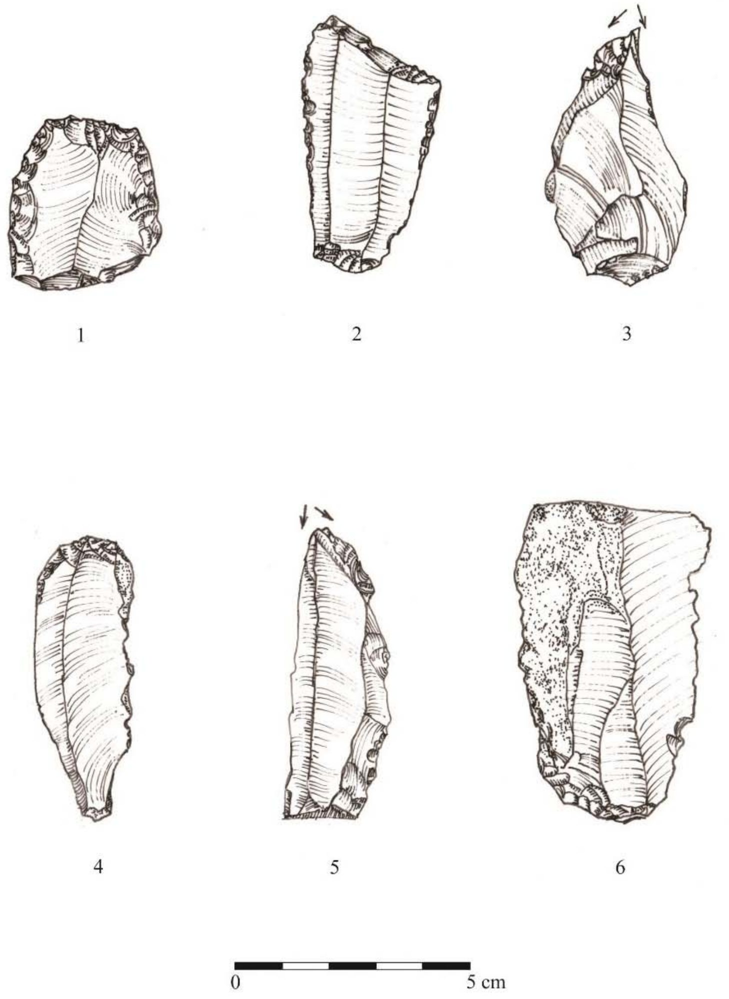

Fig. 1. Mitoc-*Malu Galben*, Gravettien I, C. 22: 1, lame fragmentaire retouchée à front de grattoir; 2, lame fragmentaire à troncature retouchée; 3, burin dièdre sur éclat; 4, grattoir sur lame corticale retouchée; 5, burin dièdre sur lame fragmentaire; 6, lame fragmentaire corticale, denticulée.

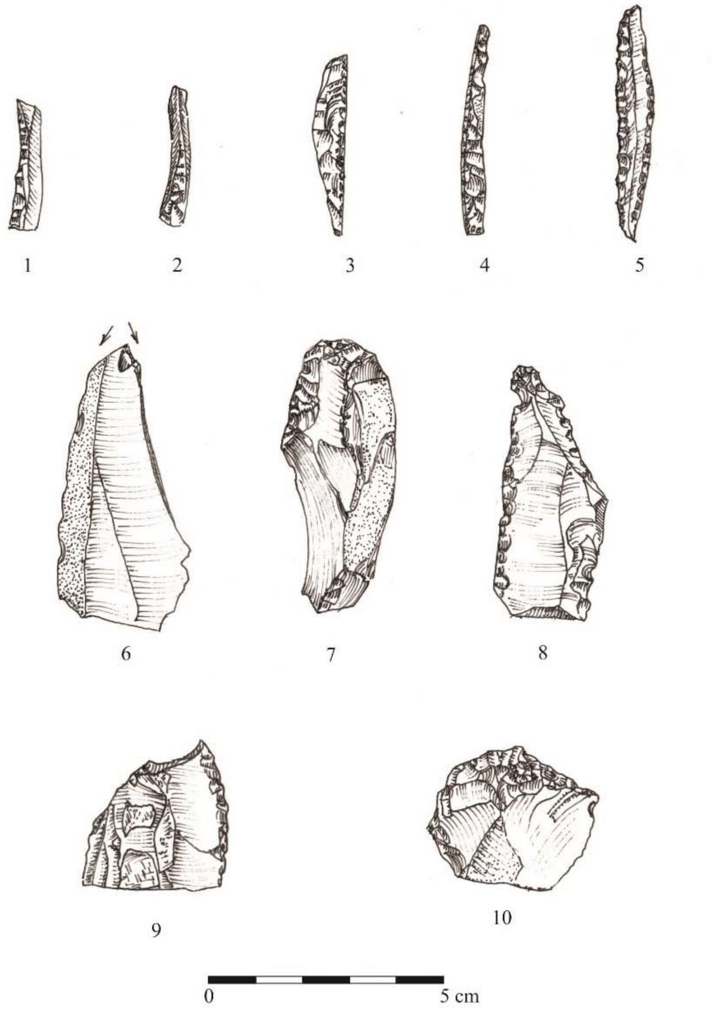

Fig. 2. Mitoc-*Malu Galben*, Gravettien I, C. 22: 1, lamelle à dos, fragmentaire; 2, lamelle; 3, lamelle à crête; 4, lamelle à crête; 5, lame à dos; 6, burin dièdre sur lame corticale fragmentaire; 7, grattoir sur lame corticale; 8, lame fragmentaire retouchée; 9, lame fragmentaire retouchée; 10, grattoir sur éclat.

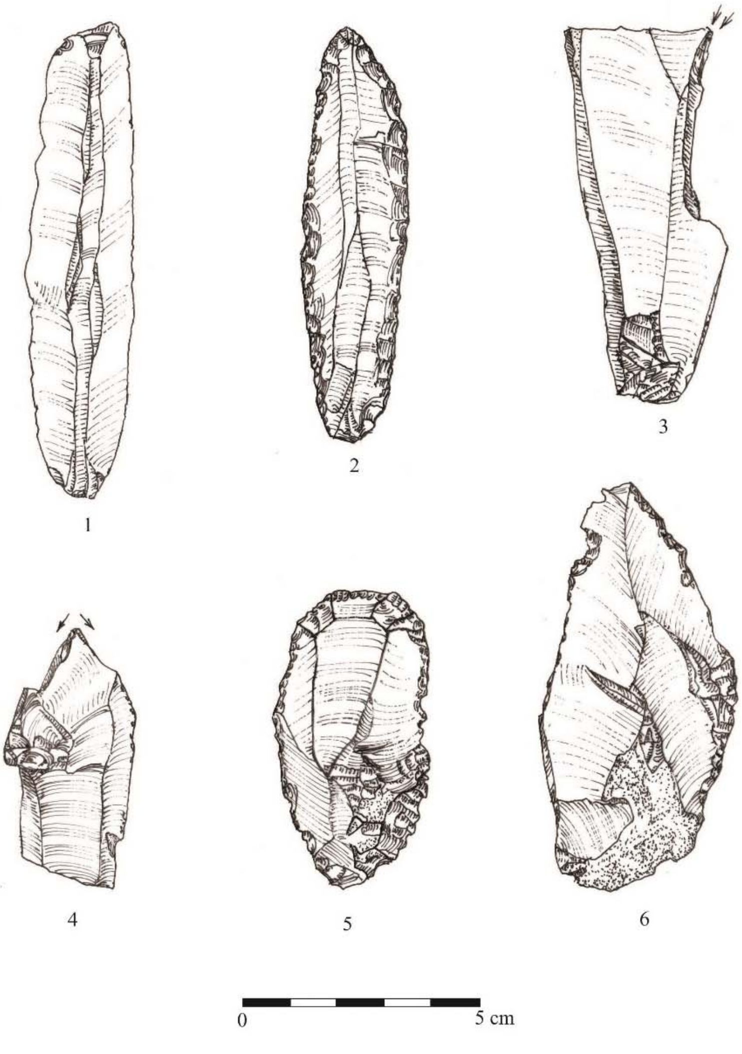

Fig. 3. Mitoc-*Malu Galben*, Gravettien I, C. 22: 1, lame macrolithique non-retouchée; 2, lame moyenne retouchée; 3, burin d'angle sur lame fragmentaire; 4, burin dièdre sur lame fragmentaire; 5, grattoir sur lame retouchée; 6, éclat cortical retouché.

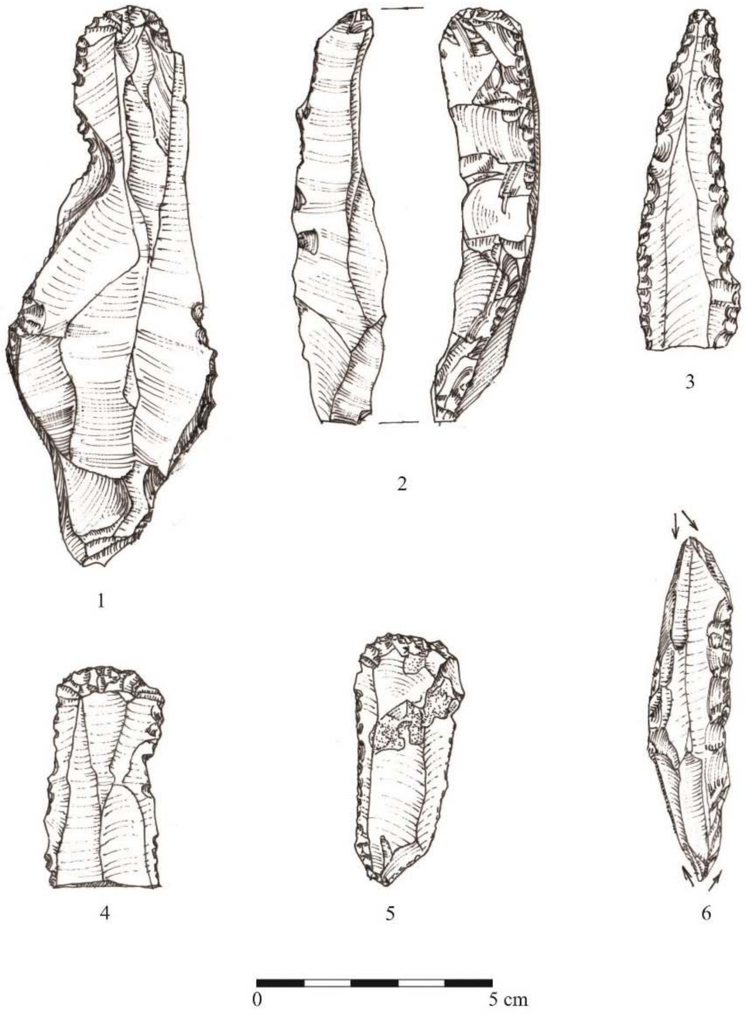

Fig. 4. Mitoc-*Malu Galben*, Gravettien I, C. 22: 1, grattoir sur éclat macrolithique; 2, grattoir sur lame à crête; 3, lame fragmentaire retouchée; 4, grattoir sur lame fragmentaire retouchée; 5, grattoir sur lame corticale retouchée; 6, burin sur lame fragmentaire retouchée.

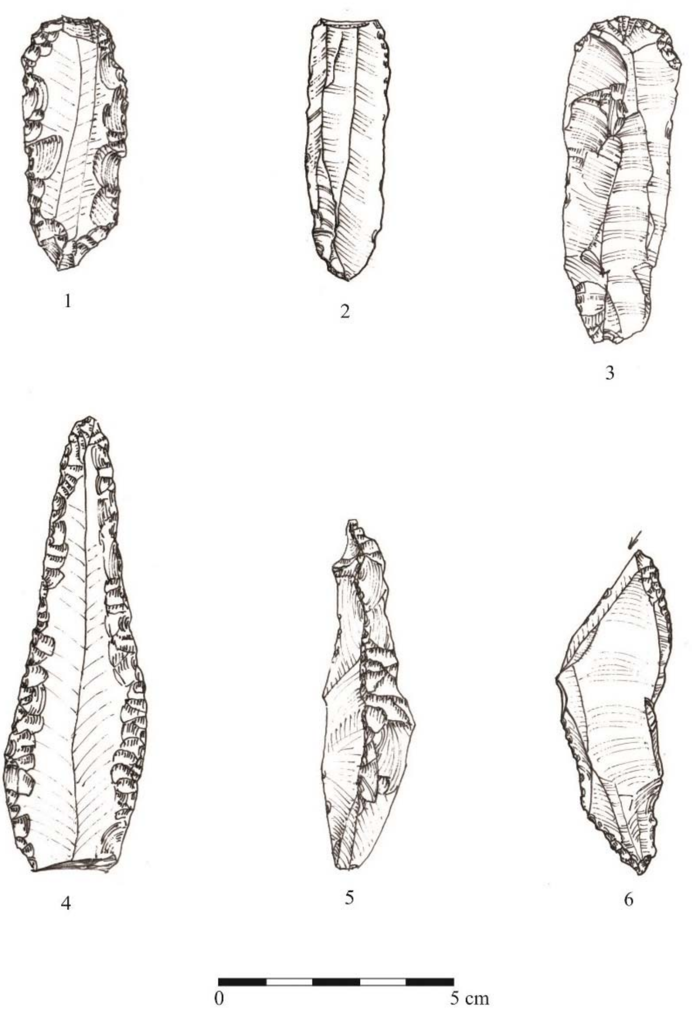

Fig. 5. Mitoc-*Malu Galben*, Gravettien I, C. 22: 1, grattoir sur lame retouchée; 2, lame fragmentaire retouchée; 3, grattoir sur lame; 4, lame retouchée; 5, lame à crête; 6, burin dièdre sur lame retouchée.

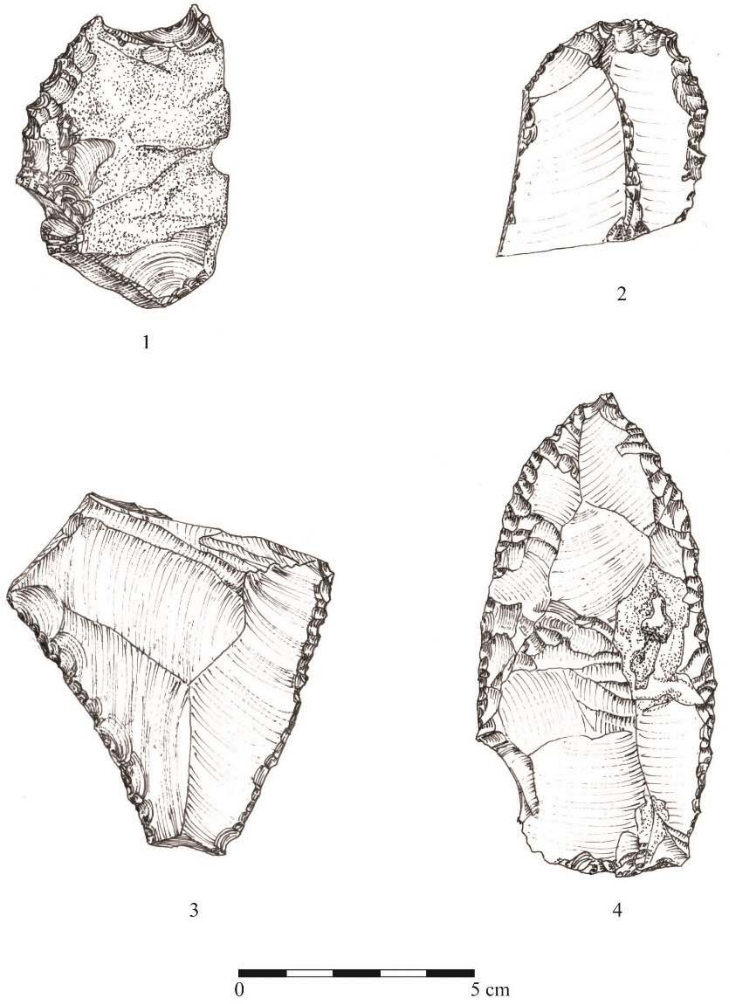

Fig. 6. Mitoc-*Malu Galben*, Gravettien I, C. 22: 1, éclat cortical retouché; 2, grattoir sur éclat cortical à néo-cortex; 3, éclat retouché (racloir double?), 4, éclat macrolithique retouché.

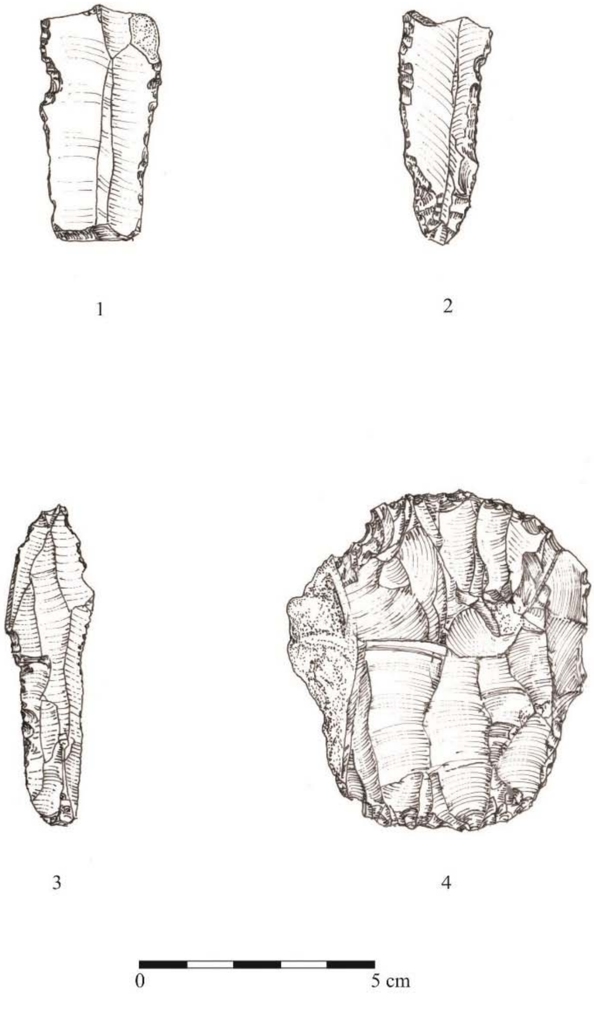

Fig. 7. Mitoc-Malu Galben, Gravettien I, C. 22: 1, lame fragmentaire retouchée, en grès; 2, lame fragmentaire retouchée; 3, lame moyenne à retouchees partielles; 4, grattoir double sur éclat cortical.

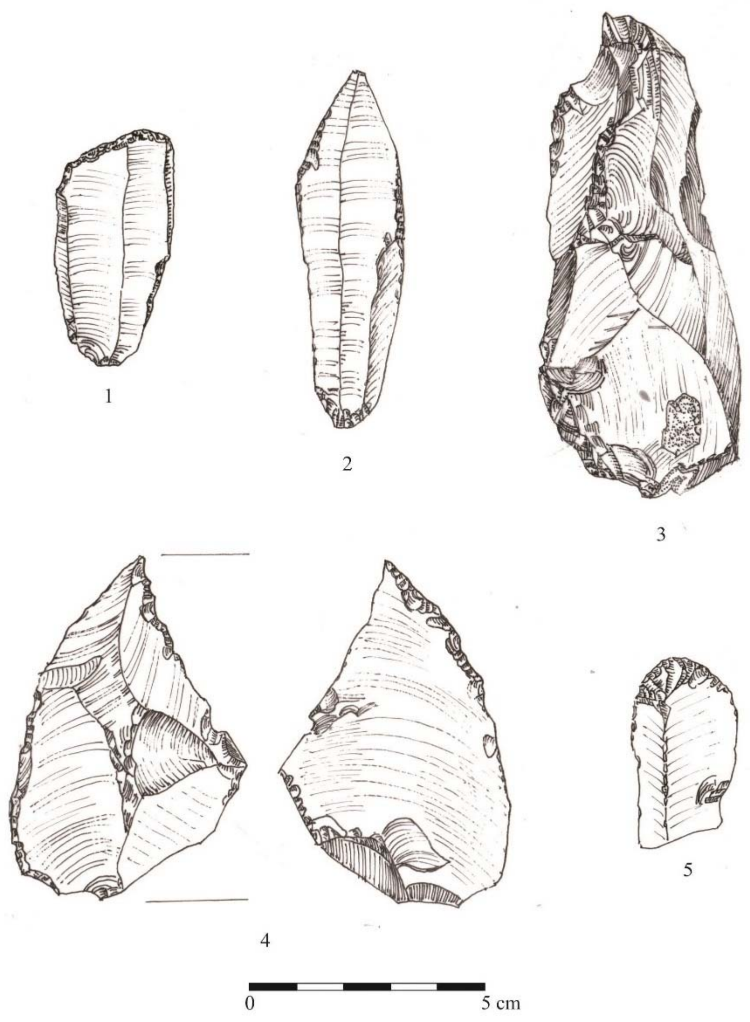

Fig. 8. Mitoc-*Malu Galben*, Gravettien I, C. 22: 1, grattoir sur lame moyenne; 2, lame moyenne retouchée; 3, éclat macrolithique; 4, pointe (pic) sur éclat retouché; 5, grattoir sur lame fragmentaire.

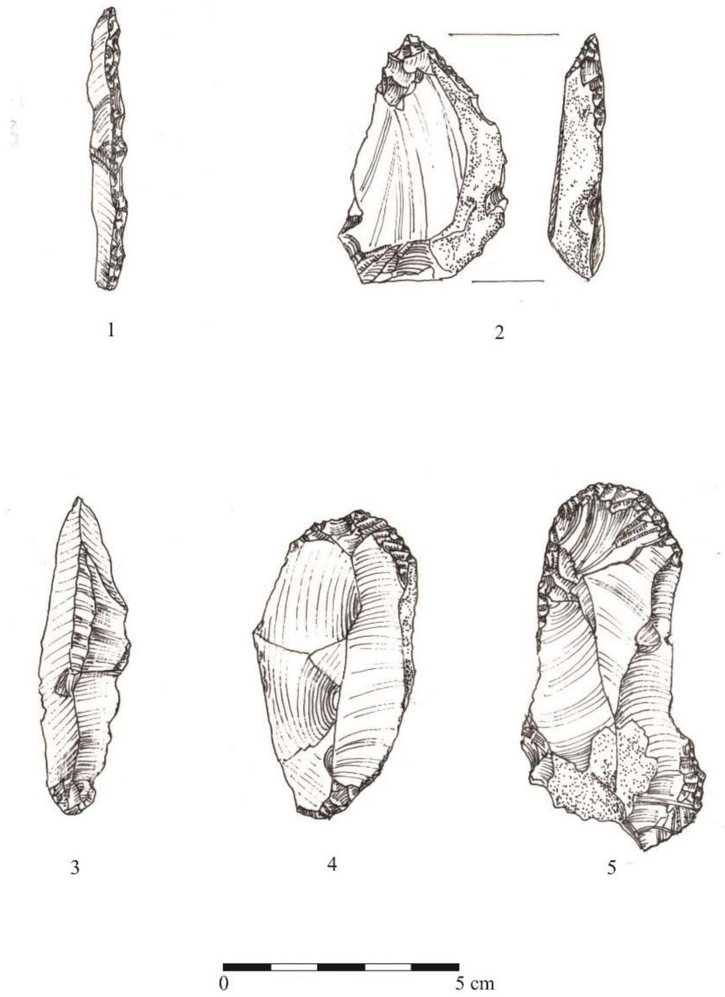

Fig. 9. Mitoc-*Malu Galben*, Gravettien I, at. 27: lame moyenne à crête; 2, éclat cortical type appointé, retouché; 3, lame moyenne; 4, grattoir sur lame moyenne corticale; 5, grattoir sur lame moyenne corticale.

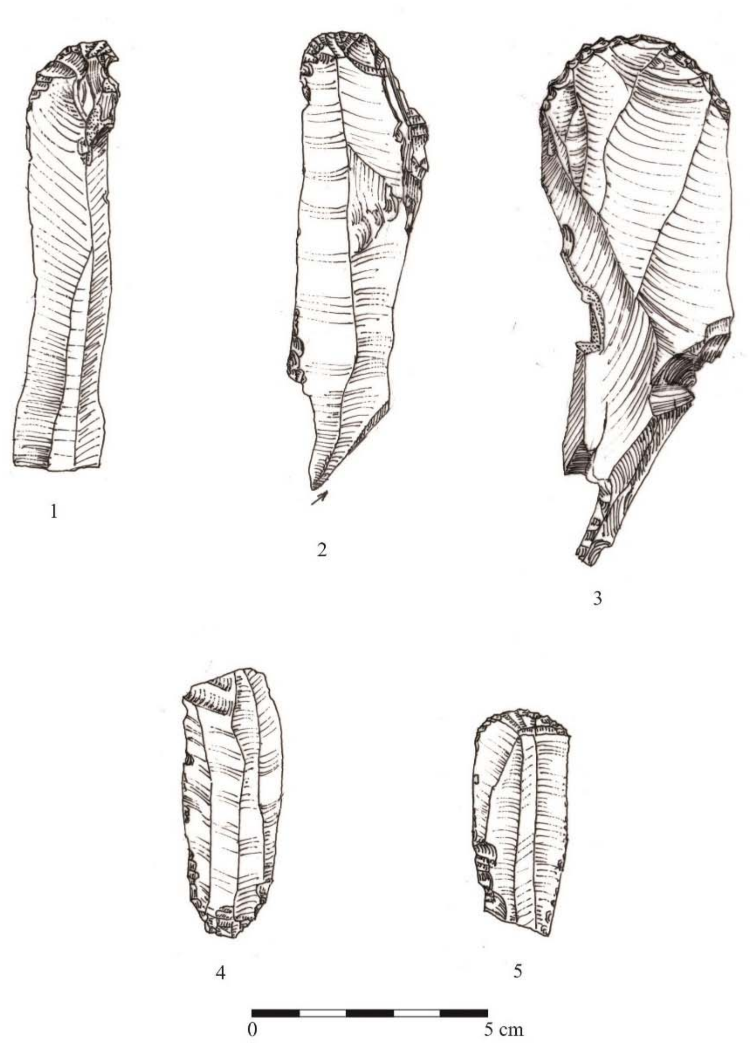

Fig. 10. Mitoc-*Malu Galben*, Gravettien I, at. 27: 1, grattoir-burin sur lame macrolithique; 2, grattoir sur lame non-retouchée, corticale; 3, grattoir sur lame macrolithique, corticale; 4, lame moyenne, retouchée; 5, grattoir sur lame moyenne fragmentaire.

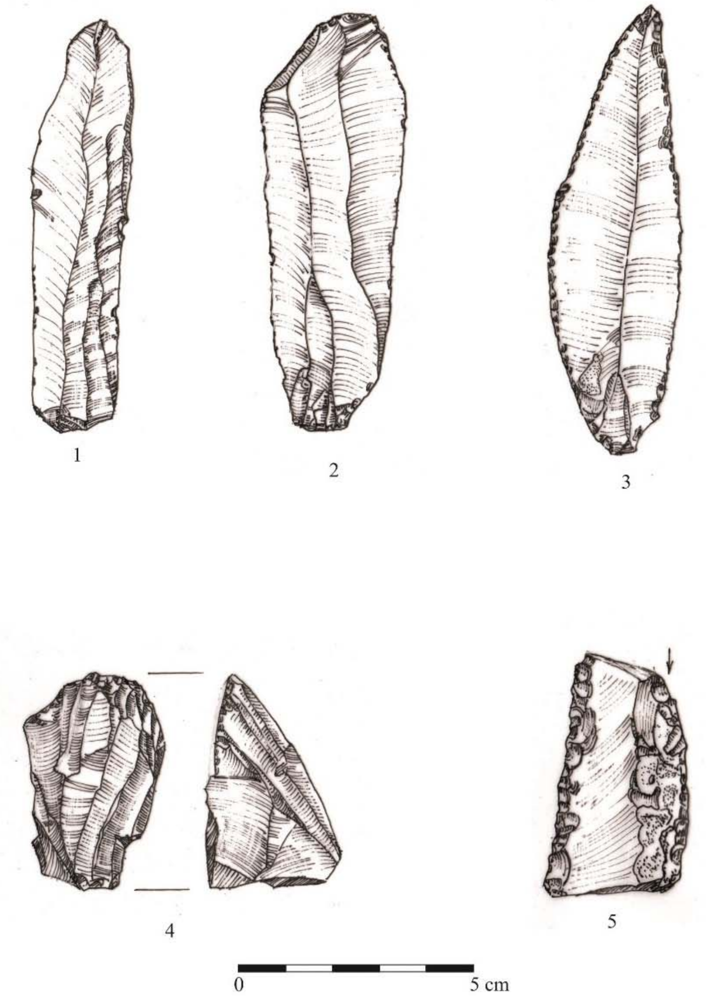

Fig. 11. Mitoc-*Malu Galben*, Gravettien I: lame non-retouchée, 2, lame macrolithique non-retouchée; 3, lame appointée; 4, rabot combine à un burin dièdre; 5, burin d'angle sur lame moyenne retouchée; 1-3, at. 27; 4-5, C. 22.

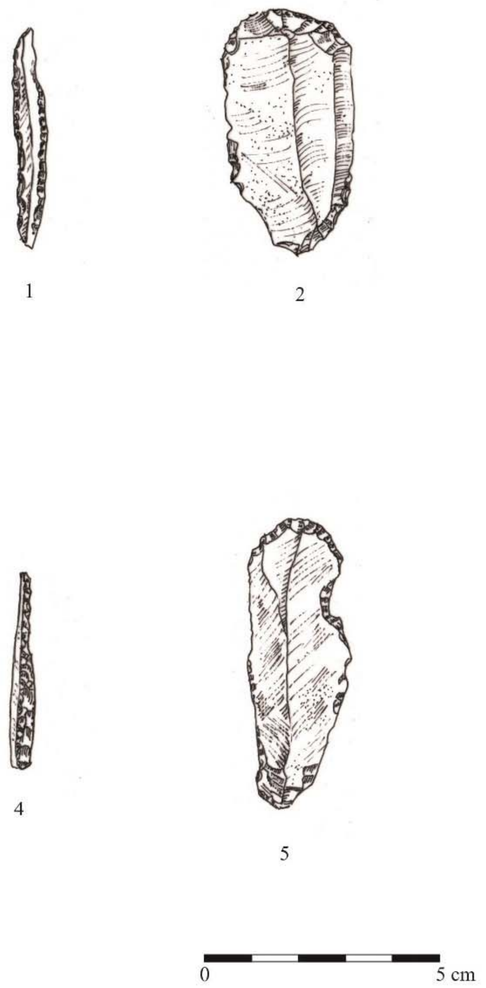

Fig. 12. Mitoc-*Malu Galben*, Gravettien I: 1, lame à dos; 2, grattoir sur lame retouchéee, en grès; 3, grattoirs-burin sur lame retouchée, denticulée; 4, lame à crête; 5, grattoir sur lame en grès; 6, lame retouchee et à troncature retouchee; 1, 3-4, C. 22; 2, 5-6, at. 27.

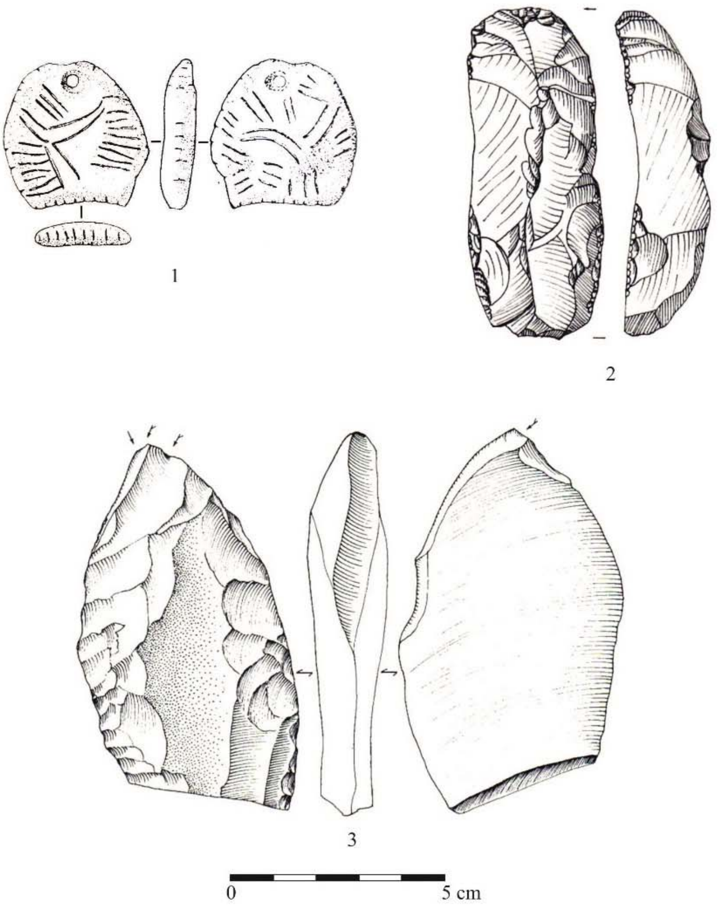

Fig. 13, Mitoc-*Malu Galben*, Gravettien I, at. 27: 1, pendeloque en cortex; 2, grattoir caréné sur lame macrolithique; 3, raclor-burin sur eclat moyen.

SOME REMARKS ON THE EARLY NEOLITHIC SETTLEMENT AT ZAGÓRZE, SITE 2 IN LESSER POLAND

Sławomir KADROW[1]

Abstract: The article presents the results of research at the site 2 in Zagórze, where traces of settlement from the early Neolithic to modern times were discovered. Attention is focused on the settlement of so-called Danubian cultures (LBK, MC and Lengyel cultures). An outline of their chronology is presented and first of all their settlement structures. Spatial relations between residential zones (places of house placement) and zones of everyday activity of inhabitants (dispersion of ceramic fragments) of three different Danubian cultures were analyzed. In this regard, significant differences were found in the organization of settlement space by the population of LBK, MC and Lengyel. It probably reflects also significant differences in the social organization of the population of the mentiones above cultures inhabiting site 2 in Zagórze.
Keywords: *Lesser Poland, early Neolithic, Danubian cultures, settlement structures, long houses*

1. Location of the site

Zagórze, site 2 (Niepołomice Commune, Małopolskie Voivodship) is located in Lesser Poland (Fig. 1), near the northern border of the Wieliczka Foothills. It is situated on a flattened loess hill, towering over the broad valley of Załężanka river[2].

The culmination of the elevation covered with loess soils, on which the site is located, has undergone significant transformations as a result of various and sometimes advanced erosion processes. The development of the modern road network and the economic exploitation of the area, including agriculture in particular, also contributed to the transformation of the surface of the discussed stand[3].

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[2] OKOŃSKI 2004: 257, fig. 1; KADROW and OKOŃSKI 2008: 1.

[3] OKOŃSKI 2004: 257; KADROW and OKOŃSKI 2008: 1-3.

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2. HISTORY OF INVESTIGATIONS

Site 2 in Zagórze was discovered in 1992 during surface survey of Archaeological Picture of Poland in the area of 104-59. At that time, traces of the early Neolithic settlement, the younger pre-Roman and the early stage of Roman period, the younger phase of the early Middle Ages and few material from the late Middle Ages were recorded[4].

In 1996, the Krakow Highway Research Team conducted a sounding field works on a small scale (only 190 m^2) on the discussed site. They took place as part of the preliminary exploratory work for the action of wide-area field rescue excavations, before the construction of the A4 motorway. These works confirmed the multicultural character of the site 2 in Zagórze[5].

The high assessment of the obtained results prompted another team of archaeologists to carry out, in the autumn of 1996, further detailed surface survey in the area of the site. It has contributed to a significant enlargement of the range of the site, especially in the north-east direction[6].

In the years 2000-2005, archaeologists from the Krakow Highway Research Team carried out large scale rescue excavations at the site 2 in Zagórze[7]. In total, almost 8 hectares of surface, ie. 780 ares, were examined[8].

3. CULTURAL AND CHRONOLOGICAL CHARACTERISTICS OF NEOLITHIC POTTERY.

In the Neolithic period, as a result of a multi-stage source analysis, 67 948 pieces of ceramics were qualified. They were located in the fills of 1237 Neolithic objects. The vast majority of pottery fragments were clearly attributed to three culture units. The Linear Band Pottery culture (LBK) includes 14 248 pieces of pottery and 867 objects. 5 347 pottery fragments and 281 earthen features were qualified to the Malice culture (MC), and 48 309 ceramic remains and 62 objects to the Modlnica group of the Lengyel culture (MG LC).

The figures presented above strike a significant difference in the relations of movable remains (pottery fragments) to immovable (earthen objects/features) between the LBK and the MG LC. In the first case (LBK), only 16.5 fragments of pottery falls per one object, and in the second case (MC) "up to" 779 ceramics pieces. In MC, similar relations prevail as in LBK - 18.9 fragments of ceramics per one object. This situation reflects the serious

[4] KADROW and OKOŃSKI 2008: 3.

[5] KONIECZNY 1996: 1; NAGLIK 2001: 347; OKOŃSKI 2004: 258-259; KADROW and OKOŃSKI 2008: 3.

[6] GÓRSKI *et al.* 1996; KADROW 2015a.

[7] CZEKAJ-ZASTAWNY *et al.* 2003: 287; OKOŃSKI 2004; CHMIELEWSKI *et al.* 2006; KADROW and OKOŃSKI 2008.

[8] KADROW 2015a.

differences in the strategy of settling and organizing the living space between the population representing the aforementioned cultural units.

3a. Pottery of LBK

A characteristic feature of LBK ceramics is a clear division into two categories: delicate (table) and kitchen pottery. The affiliation in delicate ceramics is determined by: thin walls (usually 3 to 6 mm thick), the use of ornaments made of engraved lines, use of clay without admixture or with a very small admixture of sand, and relatively small vessel sizes. The kitchen ceramic category includes vessels with thicker walls (over 6 mm), usually decorated with plastic ornaments or finger and nail prints, which are made of clay with an organic and pieces of dried clay admixture. These vessels are larger in size.

Among the 969 fragments of LBK pottery from object no. 2066, the vast majority belong to the oldest stage of this culture, that is to the Zofipole (pre-music-note) phase. Ceramics from this phase are distinguished by medium or large organic admixture, good burnt and smooth, sometimes almost shiny surfaces. Sometimes external surfaces bear traces of intensive wiping or brushing, rarely roughing. However, they never have the character of "mealiness" so typical for later periods of development of the discussed culture. Thus it is easy to identify it among pottery from the younger phases of LBK and other Neolithic cultures[9].

The set of forms in this phase is limited to the ball-shaped dishes, deep bowls and vessels with egg-shaped belly and a tall, slightly tapering neck. The most common decorative motifs include closed surfaces, surrounded by engraved lines, which are usually a bit wider and deeper than the lines engraved in later phases[10].

Due to the occasional occurrence of small music-notes on engraved lines, the pottery assamblage from object 2066 should be dated to the end of the Zofipole phase. It has its counterpart in the “ačkova” phase ceramics complex in Vedrovice in Moravia, referred to as the Ib2 phase[11].

A separate category of ornamentation consists of various threads of engraved lines, mainly straight lines, which are not accompanied by music-notes or Želizovce notches. They are characterized primarily by the ornamentation of fairly deep, multiplied engraved lines, running mainly in a vertical arrangement. They are not typical closed motives of the Zofipole style. Perhaps they are a remnant of the settlement of the LBK population from the still earlier pre-music-note stage, known as the Gniechowice phase (Ia) in the development of LBK ceramics in Poland[12]. In terms of technology, it differs from the

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[9] KADROW and OKOŃSKI 2008.

[10] KADROW and OKOŃSKI 2008.

[11] ČIŽMÁR 2002: 178, 179; KADROW and OKOŃSKI 2008: 16-19.

[12] KULCZYCKA-LECIEJEWICZOWA 1979: 48-51, fig. 6.

ceramics of younger phases by the use of a clay with an admixture of stone and flint crushed particles[13].

A set of younger LBK forms consists of various sizes of vessels in the shape of a ½ ball section. There are also deep and shallow bowls. A separate type of LBK ceramics on the described stand are large vessels with egg-shaped belly with distinctivly separated necks.

The most common ornamental motifs are vertically, horizontally or arched-like arranged engraved lines completed with music-notes. A relatively small collection of ceramics is decorated with engraved lines and Želizovce notches.

The vertical, diagonal and horizontal cuts are found on kitchen ceramics. In addition, there are fingerprints, nails covering the entire surface of the vessel or in the. In addition, cases of "tweaking" the surface and finger-nail prints are also reported. The most numerous group of ornaments on kitchen ceramics are made of various types of applique nodules.

Analysis of LBK ceramics allows for the separation of several phases of settling of the discussed site. The oldest horizon is marked by ceramics from objects 773, 1225 and 1344, made in the Gniechowice style (phase Ia of LBK). At the same time this kind of pottery determines the oldest horizon of LBK settlement in the areas north of the Carpathians[14].

Undoubtedly, there is the pre-music-note phase in the Zofipole style, represented by materials from the 2066 feature[15]. They correspond to Ib phase of LBK in Poland[16].

The most numerous materials are from the late stage of the music-note phase (LBK II). The next stage of settling of the site was the Želizovce phase (LBK III), for which characteristic is the occurrence of pottery decorated with threads of engraved lines provided with short notches[17].

3b. Pottery of MC

MC pottery is also divided into delicate (table) and kitchen (coarse) ceramics. A characteristic feature of delicate ceramics is its typical corrosion of the outer surface, originally probably engobed, which "splits off" the whole panels. A small admixture of ocher or sand was added to the tableware clay. On the other hand, grog was added to the coarse pottery clay. In a small part of this type of MC ceramics (<10%), the presence of an organic admixture is recorded. The wall thickness of delicate ceramics varies from 3 to 6

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[13] See also KADROW 1990a: 60.

[14] KULCZYCKA-LECIEJEWICZOWA 1979: 48-51, fig. 8.

[15] KADROW and OKOŃSKI 2008.

[16] See KULCZYCKA-LECIEJEWICZOWA 1979: 48-51.

[17] See KADROW 1990a: 63, 72, fig. 28.

mm, and the wall thickness of the coarse ceramics from 6 to 9 mm, sometimes even reaching up to 15 mm.

The leading form are pear-shaped cups. They have a more or less clearly marked, low situated the greatest gust of the belly. In addition, there are bowls, amphoras and small dishes with bellied necks. A characteristic way of decorating delicate ceramics, especially pear-shaped cups and parts of bowls is the stroked ornament. In the discussed collection of ceramics, however, the meander motif is usually found. The rafter motifs typical of classic MC are less common here.

Kitchen pottery is decorated with plastic ornaments. These are notch cuts and ribbing of plastic strips under the edge of the spout. Sometimes they are ornamented also with applique nodules.

The presence of meander motifs characteristic for the Sambrzec-Opatów group and vessels with swelling necks[18] allows to date the discussed collection of pottery of MC into phase Ia of this culture[19]. The presence of rafter motifs, however, makes us prolong the settling of the settlement at site 2 in Zagórz until the beginnings of phase Ib of this culture[20].

3c. Pottery of MG LC

In this cultural unit, there is no clear division into kitchen and table ceramic. The vast majority of ceramics were made of clay with admixture of grog and/or pieces of dried clay.

MG LC ceramics are very fragmented. Nevertheless, it was possible to distinguish numerous parts of various bowls (which often had pedestalled feet), amphorae with ears at the edge of the spout and pots. The decorating of the vessels of the MG LC consists only of applique elements.

The ceramics for salt production occupy a separate place. They are made of clay with a large admixture of sand.

The forms of the vessels and the ornamentation that could be attributed to the older phase (the Pleszów stage) of the MG LC are very few. Completely missing in this huge collection of pottery ceramics decorated with painting.

4. Chronological sequence of Neolithic settlements

The most intense was the settling of the site by the population of the late stage of the music-note phase (LBK II) and the later stage of MG LC. All settlement phases were separated by longer or shorter settlement breaks.

The beginning of the settlement of the discussed site was about 5600 BC with the appearance of a small group of the oldest LBK population from the Gniechowice sub-

[18] KACZANOWSKA and KOZŁOWSKI 2006: 25-27.

[19] KADROW 1990b: 99-102.

[20] KADROW and ZAKOŚCIELNA 2000: 197-200, fig. 7.

phase. Soon after, a slightly larger group of inhabitants from the oldest phase of LBK (the sub-phase of Zofipole) - appeared. The largest size the settlement reached in the final stage of the LBK music-note phase. A 200-300 years settlement break could last between the Zofipole sub-phase and the end of the music-note phase of LBK. The hiatus between the late music-note phase and the small settlement from the middle stage of the Želizovce phase lasted for a much shorter time.

It seems that the population of the oldest MC appeared in the site right after the LBK population left this area. The longer, about 300 years old break had to separate the settlement of the site by the population of MC and LBK. The end of the first period of settling of the site 2 in Zagórze marks the grave of the Wyciąże-Złotniki group from the beginning of the Copper Age in the 1st part of the 4th millennium BC.

5. Spatial analysis of the settlement of site 2 in Zagórze

At least 10 pole constructions registered in the discussed site (Fig. 2) represent the category of a long house (Fig. 3), the best example of which is the house 600. Most of them have not been preserved in their entirety (eg. 767, 2316) and some of them only fragmentarily (eg. 3154). With the exception of house 767 (from Želizovce phase), all other long houses are connected with the final stage of the LBK music-note phase.

Traces of LBK post-whole structures occur in a wide area from the lines of ares 520 in the east to the lines of ares 190 in the west. They run in a belt length of approx. 330 m and a width of up to 80 m along the axis oriented NEE-SWW from the object 1466 in the west to the object 830 in the east. The area of occurrence of other LBK earthen objects is even larger (Fig. 2).

An interesting picture is the spatial distribution of LBK ceramics (Fig. 4) in relation to the disspersion of building structures of this culture (Fig. 2). The most numerous ceramic material occurs in the central part of the LBK settlement range on the discussed site. It focuses on buildings 234, 2315, 2316. A surprising situation prevails in the eastern part of the settlement. The most numerous but heavily damaged traces of LBK houses are accompanied by the least numerous series of ceramics. Perhaps this is the effect of the strong and most destructive influence of settlement processes from the younger periods of prehistory and the Middle Ages in this part of the described site.

The spectacular results are provided by spatial analysis of traces of the settlement of MC (Fig. 5, 6). It reveals the existence of dwellings, typical of Polish areas only for MC (Fig. 7). Three well-preserved houses (800, 943 and 997) were discovered in the north-western part of the settlement and a slightly damaged object of this type in the north-eastern part of it.

MC houses represent a very characteristic and repeatable spatial system with a single row of columns on the perimeter of the structure, internal division of the surface and clay-pit found in the vicinity of the NW corner of the house (Fig. 8)[21].

All MC houses discovered in 2003-2004 during rescue investigations along the A-4 motorway route in Lesser Poland belong to unique, previously unknown structures in the areas north of the Carpathians. Also in the area of the Carpathian Basin they belong rather to rare peculiarities.

The relationship between the spatial distribution of MC post-hole houses (Fig. 5) and the spread of MC ceramics (Fig. 6) in this site is surprising. There is a clear and decisive separation of the residential area from the zone of intensive deposition of ceramics. It seems that it should be explained by the separation of the residential zone from the consumption and production zone, which we have not seen so far on the settlements of Early Neolithic in Polish territories.

A characteristic feature of MG LC settlement on this station is the total lack of any traces of dwelling structures. Most of the very large ceramic material of MG LC, constituting 2/3 of the total Neolithic materials, was deposited in the five clay-pits, and above all in object 419.

The pottery material deposited in these clay-pits is not related to their primary functions and was there as a result of secondary post-depositional processes. Originally, it had to be a component of the residential zone of the settlement of the MG LC. Unfortunately, the dwellings of this cultural unit is completely elusive for archaeological methods. It is only known that in these dwelling construction must have drastically differed from the easy-to-register construction of the LBK or MC.

One thing is certain, the population of the MG LC in terms of the organization of space on their settlements neither continues the older local traditions nor refers to contemporary trends in this area characteristic of the Lengyel population in the Carpathian Basin. It is characterized by a vast predominance of pottery material over a modest number of earthen objects, which contrasts so vividly with the LBK and MC and what in fact probably conceals serious cultural differences between these units also in social organization.

[21] Cf. KADROW 2015b.

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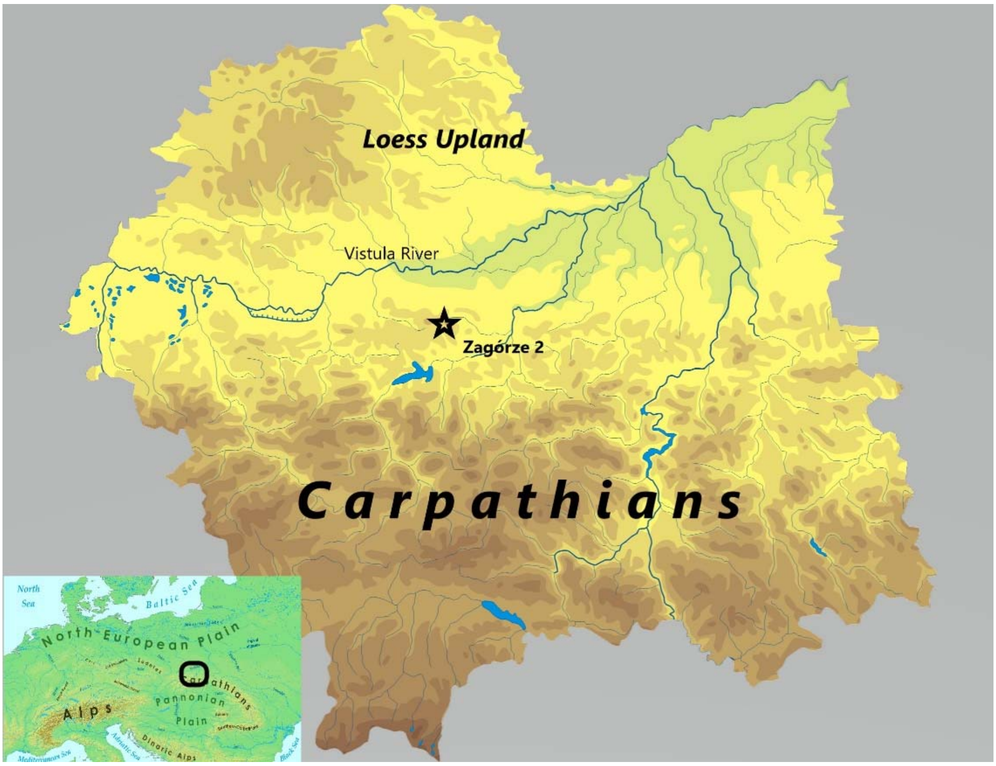

Fig. 1. Location of site 2 at Zagórze in the range of Małopolskie (Lesser Poland) Voivodeship.

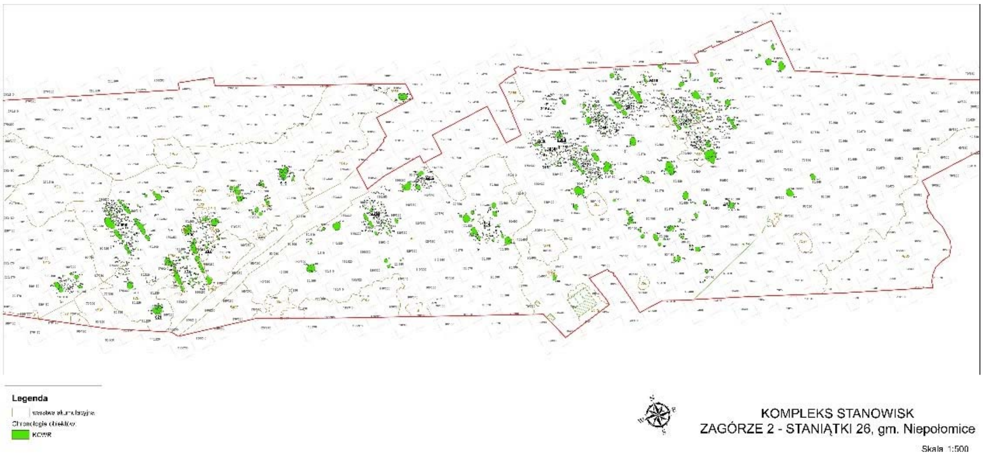

Fig. 2. Zagórze, site 2. Spatial disspersion of earthen objects of LBK including traces of (more than) 10 long houses.

Fig. 3. Zagórze, site 2. LBK long house No 717 (photo by J. Okoński).

Fig. 4. Zagórze, site 2. Concentrations of LBK pottery fragments on the background of LBK earthen objects.

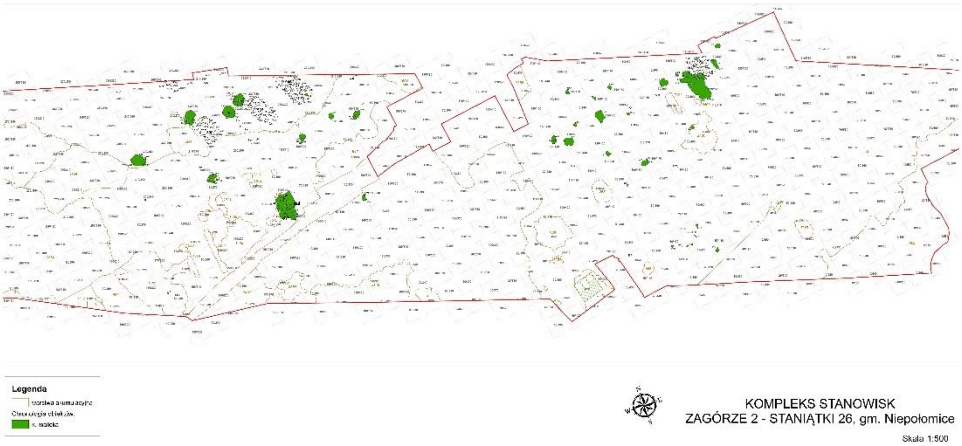

Fig. 5. Zagórze, site 2. Spatial disspersion of earthen objects of MC including traces of 4 post-hole houses.

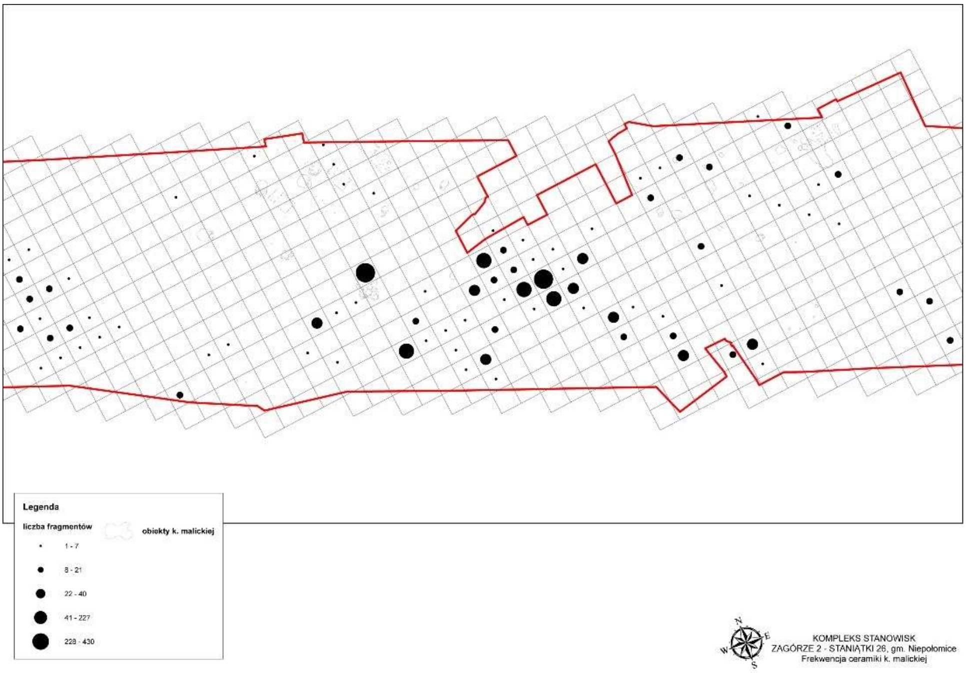

Fig. 6. Zagórze, site 2. Concentrations of MC pottery fragments on the background of MC earthen objects.

Fig. 7. Zagórze, site 2. MC post-hole house No 997 (photo by J. Okoński).

Fig. 8. Zagórze, site 2. MC post-hole house No 800 (photo by J. Okoński).

TWO NEW GREENSTONE AXES FROM TRANSDANUBIA – EVIDENCE OF LONG DISTANCE TRADE NETWORKIN THE CARPATHIAN BASIN

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Abstract: The petroarchaeological investigation of polished stone artefacts has recently spectacularly developed in Hungary. As a result of national and international projects, the main raw material types utilised and distributed have been established. It is realised that the trade of specific polished stone raw materials is among the largest networks of prehistoric (especially, Neolithic) trade. In the framework of the JADE2 project, the distribution zone of Western-Alpine jadeite and related rocks was extended over the territory of Hungary, principally the Transdanubian region.

This paper will present two new finds – partly from field survey, partly from museum material survey – of "greenstone" axes (jadeitite and eclogite) that came to the focus of attention after the closing of the JADE2 project. It is argued that a systematic review and mapping of polished stone tools, given our current experience in sourcing and characterisation, is essential for a better understanding of trade systems and networking on the territory of prehistoric Hungary.

The two axes fit perfectly in the series of HP-LT metaophiolites located and analysed so far from the territory of Hungary Their provenance can be determined as originating from the Western Alpean or closely surrounding sources.

***Keywords**: jadeitite, eclogite, HP-LT metaophiolite, Hungary, long distance trade*

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Materiality and Identity in Pre- and Protohistoric Europe
Homage to Cornelia-Magda Lazarovici

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INTRODUCTION

The largest trade network identified among Stone Age communities is obviously that of greenstone axes, especially jadeitite (alternative names: jade, or Na-pyroxenite) and eclogites, formed under extreme metamorphic conditions, i.e. high pressure and low temperature (HP-LT)[6]. Their specific description can be made on geochemical grounds[7], or on petrographic basis[8]. These two systems of terminology do not completely overlap; the exact name would depend on the aspects of analyses, i.e., chemical or petrographic-mineralogical approach, see in details at Váczi *et al.* 2017 and Bendő *et al.* in press[9]. The HP-LT metaophiolites are met in Europe only at very limited areas, mainly at the Western Alps and the Voltri massif, and less significantly in the Betic Cordilleras and the Aegean[10]. For a long time, jadeitite axes were located only in the Western parts of Europe; therefore finding them in Slovakia extended the supply zone essentially[11]. Nowadays more and more new data have appeared about their occurrences in the material of excavations and revised old museum collections of Central and Eastern Europe, mainly in the framework of the JADE2 project[12]. The exact origin of the HP-LT metaophiolite tools is the subject of scientific debates as yet. Pétrequin and co-authors suppose the utilisation of primary resources (especially for the jadeitite), and originate them from the Western Alps around Monviso, from an elevation of 2000-2400 m a.s.l., directly exploited from the bedrock by quarrying[13]. In another interpretation, the raw material of jadeitite stone tools could be based on the secondary resources from the Western Alps, the Voltri Massive and the Oligocene conglomerates of the NW Apennines and their eroded gravel beds in the Pleistocene and the load of the river Po and tributaries (Curone, Staffora etc.) 'tested' by the rivers[14].

The recognition of HP-LT metamorphite artefacts is relatively new among the Hungarian lithic evidence. Though the „greenstone" component was mentioned, without specific petrographic name, already in the earliest publications on Stone Age lithics[15], the first identification of jadeitite and eclogite artefacts among the Hungarian polished stone

6 PÉTREQUIN *et al.* 2012.

7 D'AMICO *et al.* 2003.

8 GIUSTETTO & COMPAGNONI 2014.

9 VÁCZI *et al.* 2017; BENDŐ *et al.* in press.

10 e.g., TSUJIMORI & HARLOW 2012; HARLOW *et al.* 2015; CASTELLI *et al.* 2002; BELTRANDO *et al.* 2010; ANGIBOUST *et al.* 2012; COMPAGNONI *et al.* 2012; OKRUSCH & BRÖCKER 1990; SECK *et al.* 1996; PUGA *et al.* 1989; 2013.

11 PÉTREQUIN *et al.* 2011.

12 T. BIRÓ *et al.* 2017a.

13 e.g. PETREQUIN *et al.* 2005a, 2005b, 2007.

14 e.g. D'AMICO *et al.* 2003; D'AMICO & STARNINI 2006; 2012; GIUSTETTO *et al.* 2017.

15 RÓMER 1866, fig. 8.; T. BIRÓ 2015.

tools took was published first in 2008[16], supported with proper petroarchaeological evidence in 2013[17], informing the scientific community on three jadeitite (two of them jadeitite s.s., and one Fe-jadeitite after the terminology of D'Amico *et al.* (2003)) axes located in Hungary, more specifically, Transdanubia[18]. These studies were essentially extended and widened in the framework of two important projects on lithic artefacts, namely OTKA K-100385[19] and greenstones specifically (JADE2[20]). As a result, altogether 25 jadeite and related HP-LT metamorphite axes have been identified and published[21].

Material and Methods

In this paper we are presenting two new greenstone axes discovered from Veszprém County, Central Transdanubia, after the closing of the JADE2 project. They were located in the collection of the Laczkó Dezső Museum (LDM), Veszprém (Sikátor, Inv. Nr. 55.820) from old museum collection and from the private collection of E. Wolf, from the locality Porva-Győri rétek (Site number in MRT[22]: Porva 67/3). Being proofs of extra-long distance trade, all petroarchaeologically proven instances represent high value for the reconstruction of prehistoric trade network. The axes were in „mint" condition, so analysis by destructive methods was out of question.

Fortunately, the experiences of recent years allowed us to use absolutely non-invasive techniques for the study of these exceptional items.

Description of the new greenstone axes

1. Sikátor-Vecseny puszta (Fig. 1.) Laczkó Dezső Museum, Veszprém, Inv. nr. 55.820.

The locality used to belong to Veszprém county; by now, it belongs to Győr-Moson-Sopron County (**Fig. 3/8**). The exact find circumstances are unknown. All we know about the site is summarised in the volume IV of the Archaeological Topography of Hungary[23]. In the opinion of Judit Regenye[24], high prestige items registered from here including Spondylus-beads may have belonged to a large Linearband Pottery settlement. The jadeitite

[16] FRIEDEL *et al.* 2008.

[17] SZAKMÁNY *et al.* 2013.

[18] SZAKMÁNY *et al.* 2013; BENDŐ *et al.* in press.

[19] KASZTOVSZKY 2017.

[20] PETREQUIN *et al.* (eds.) 2017; T. BIRÓ *et al.* 2017a.

[21] BENDŐ *et al.* 2015; BENDŐ *et al.* in press.

[22] MRT IV 1972. (MRT = Archaeological Topography of Hungary).

[23] MRT IV 1972, site nr. 69/9)

[24] REGENYE in press.

axe does not contradict this statement though we must note, that so far jadeitite artefacts were located, when the context was known, only from sites of the Late Neolithic (typically, Lengyel Culture).

Description of the tool: Triangular axe blade with rounded butt and straight edge. Dark green "greenstone". The type can be classified, according to the system of Pétrequin[25] to type „*Varna*". Dimensions of the piece[26]: L: 4.7 cm, W: 3.6 cm, H: 1.0 cm, weight: 33.65 g.

2. Porva-Győri rétek (Fig. 2.) Private collection of Ernő Wolf, site nr. 67/3 by MRT IV (1972).

The other new greenstone axe was recently found during field surveys by E. Wolf in 2015. The private collection of E. Wolf is a rich depository of Transdanubian prehistoric finds, especially from the central parts of the Bakony Mountains (also called High Bakony; (**Fig. 3/7**)). Recently, a basalt axe workshop centre was published on the basis of the Wolf Collection[27]; and one piece made of greenstone was also included in the JADE2 project catalogue[28]. The site Porva-Győri rétek yielded archaeological material from the Late Neolithic/Early Copper Age Lengyel Culture.

Description of the tool: The new greenstone axe is elongated triangular with pointed butt and arched edge. The colour is dark green. Typologically it can be classified, according to the system of Pétrequin *et al.* 2009 (Fig. 20) to type „*Chelles*". Dimensions of the piece[29]: L: 5.4 cm, W: 3.5 cm, H: 0.9 cm, weight: 30.79 g.

METHODS

The samples were investigated by the already established standard non-destructive technology developed as a result of the project OTKA K-100385. First, metric and macroscopic data were taken including weight and magnetic susceptibility (MS) values[30] (**Table 1**). After this, non-invasive SEM-EDX using "original surface" method[31] was used for mineral chemistry data and prompt gamma activation analysis (PGAA)[32] was used for the determination of the bulk chemical composition with the aim of finding possible differences and petrographic/geochemical markers between the locations. The PGAA measurements were performed at the PGAA experimental station of the Budapest Neutron

[25] PÉTREQUIN *et al.* 2009, fig. 20.

[26] Abbreviations: L=length, W=width, H=height.

[27] T. BIRÓ *et al.* 2017b.

[28] BIRÓ e*t al.* 2017a, Zirc fig. 15/5.

[29] Abbreviations: L=length, W=width, H=height.

[30] On the application of the method, see BRADÁK *et al.* 2005, 2009; SZAKMÁNY *et al.* 2011a.

[31] BENDŐ *et al.* 2013, for the description and the circumstances of measurements see BENDŐ *et al.* in press.

[32] SZAKMÁNY & KASZTOVSZKY 2004; SZAKMÁNY *et al.* 2011b.

Centre (BNC)[33]. The measurements were absolutely non-destructive. The intact objects were placed into a horizontal cold-neutron beam at the BNC for irradiation, in order to determine their major element composition. The calculation of element concentrations was done according to the method described by Zs. Révay[34]. The measured bulk composition was compared to the dataset published by D'Amico *et al.* 2003. Previously we used the same reference system for the petroarchaeological identification of the 25 HP-LT metaophiolite axes located in Hungarian museums in the framework of the JADE2 project[35] and their non-destructive petroarchaeological investigation[36]. These latter results were also included in the current analyses.

Results

The following results were obtained:

MS (magnetic susceptibility)

For both axes, the MS value is relatively high (**Table 1**) compared to the average value for the HP metaophiolites studied so far[37]. It is in good agreement with the dark green colour of the implements and indicates a high Fe content that was also corroborated by the PGAA results (see below)

SEM-EDX (Table 3, 4, figs. 4, 5, 6)

The sample LDM 55.820 contained exclusively Na-pyroxene as main mineral phase, according to the measurements in three types of composition, showing often zonality in the appearance. (Comment: zonality can be poorly studied by the original surface SEM-EDX method; for a more exact observation, destructive methods would be better suited like thin section petrography; in the case of the exceptional extra-long distance tools of full integrity, destructive methods are not permittable). The core of the crystals is rich in jadeite and contains no aegirine, almost pure jadeite ($Jd_{86-90}Ae_0Q_{10-14}$). On its thin margins and in the space between the jadeite crystals we can find relatively large amount of aegirine (Fe-jadeite) transformed at some places into omphacite ($Jd_{44-47}Ae_{32-37}Q_{17-24}$). Besides these two types of composition we can find also crystals with transitional composition. Among the accessory minerals, zircon is most frequent, sometimes in quite large crystals (100-150 μm). Small grains of ilmenite were also found as well as small grain aggregates of TiO_2-mineral version (probably rutile) and titanite. Occasionally small crystals of xenotime and barite were also observed.

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[33] SZENTMIKLÓSI *et al.* 2010.

[34] RÉVAY 2009.

[35] T. BIRÓ *et al.* 2017a.

[36] BENDŐ *et al.* in press.

[37] BENDŐ *et al.* in press.

The Porva axe proved to be eclogite with a moderate amount of rather small garnets (100-300 μm large and idioblastic form). They appear isolated as well as in the form of aggregates. In between the garnets, essential amount of Fe-jadeite and omphacite was observed. Zonality of the pyroxene can be observed with a Fe-rich core. The garnets show a weak zonality. These are rich in almandine and relatively poor in pyrope, with relatively high Mn-content (Alm_{63}-$_{77}Sps_{3-4}Prp_{9-16}Gro+And_{4-18}$), i.e., typical for HP-LT type eclogites. Accessory minerals are very small sized and consist mainly of ilmenite, moreover magnetite, zircon and monacite crystals were found.

PGAA (Table 2, figs. 7, 8)

The results are presented in the form of multi-element diagram normalised on UCC[38]-. It is apparent that both axes made of HP metaophiolites are relatively rich in Na, Fe and Mn. The Porva eclogite sample is also rich in Ti. Both axes are poor in Mg, the values did not reach the detection limit of the PGAA measurements. On the basis of the chemical composition, the sample from Sikátor (LDM 55.820) can be determined as Fe-jadeitite while the Porva specimen can be classified as Fe-eclogite in the system of D'Amico[39]. They fit well in the series of data obtained on HP-LT metaophiolites known and analysed from Hungary[40].

DISCUSSION

For a long time, the spectacular prehistoric trade system of jadeitite and related axes was confined to Western and West-Central Europe. The discovery of jadeitite axes in the Eastern part of Central Europe, notably in the Carpathian Basin opened new perspectives for the study of prehistoric trade systems. D'Amico et al. (2003) mentioned few occurrences of jadeitite axe blades in the territory of Central-Europe. The ice-breaking article from this respect was the publication of the Golianovo jadeitite axe[41] from the territory of Slovakia.

In Hungary, the recognition of the HP metaophiloites among the archaeological material was realised by the end of the first decade of the 2000-ies; first macroscopic observations published by Friedel *et al.* 2008, the first adequate mineralogical-geochemical identification was published al at the beginning of the 2010-ies[42]. With the help of national and international projects (JADE2, OTKA K-100385), it became possible to start a regular survey of museum material and perform a systematical geochemical and mineralogical

[38] UCC = Upper Continetal Crust (data after McLennan 2001).

[39] D'AMICO *et al.* 2003.

[40] BENDŐ *et al.* in press.

[41] PÉTREQUIN *et al.* 2011.

[42] SZAKMÁNY *et al.* 2012, 2013.

study of the polished stone artefacts. Due to these projects, 25 axe blades made of HP-LT metaophiolites have been studied in details from the collection of Hungarian museums, mainly from the territory of present-day of Hungary. The 25 HP-LT axes belong to eight different raw material type categories. The two newly studied axe blades, i.e. LDM 55.820 and the Porva specimen fit well into the Fe-jadeitite and Fe-eclogite group, respectively.

With both projects, it became clear and essential that a good database and accessible publication is key element to keep the scientific community informed on long distance trade items. The distribution of polished stone tools made of exceptional raw materials is part of this work, and the Neolithic trade of HP metaophiolite implements, especially jade (jadeitite and related rocks) is perhaps the most spectacular element of this network. We are currently making efforts to establish the possibilities of further work on this fields.

We had to keep in mind two criteria: the analyses we are planning and implementing should be absolutely non-destructive, and also it should be scientifically adequate to prove identification and best possible provenance of the rock.

The current paper is a further step made on this road.

Conclusions

In course of our work we have completed recent results on stone axes made of HP-LT metaophiolite. Two new axes were analysed and compared to the recently elaborated similar finds. The stone artefact from Sikátor (collection of the Laczkó Dezső Museum, Veszprém) proved to be, according to the classification system of D'Amico[43], Fe-jadeitite and fits perfectly on the basis of form and composition to the group of Fe-jadeitites identified and analysed from the Hungarian museums. The Porva eclogite can be assigned to the group of Fe-eclogites in the system of D'Amico[44], and it is also perfectly fitting into the category of axes classified to this group within the Hungarian sites and collections. The origin of the raw material of both pieces can be identified as transported from the Western Alps from the HP metamorphic series and its potential reworked/alluvial load. The quantity and quality of accessory minerals seem to indicate, on the basis of comparative material examined so far and data in technical literature, the quarries at Monviso and/or the alluvial load of the river Po and its tributaries[45].

[43] D'AMICO *et al.* 2003.

[44] D'AMICO *et al.* 2003.

[45] VÁCZI *et al.* 2017.

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Locality	Inv. Nr.	Description	Dimensions	MS[46] values
Sikátor-Vecseny puszta	LDM 55.820.	Triangular axe blade with rounded butt and straight edge. Dark green jadeitite.	L: 4.7 cm W: 3.6 cm H: 1.0 cm weight: 33.65 g	0.63
Porva-Győri rétek	private collection of E. Wolf, Zirc	Elongated triangular axe blade with pointed butt and arched edge. Dark green jadeitite.	L: 5.4 cm W: 3.5 cm H: 0.9 cm weight: 30.79 g	0.54

Table 1. Metric and macroscopical data on the new "greenstone" axes

Spectr. Nr.	BE50		BE67	
Inv. Nr.	LDM 55,82			
	Sikátor-Vecseny puszta		*Porva (Wolf E. Collection)*	
Major	**Conc./wt %**	***Rel. Unc. %***	**Conc./wt %**	***Rel. Unc. %***
SiO_2	57.9	*0.8*	54.4	*0.9*
TiO_2	0.958	*2.4*	2.115	*2.5*
Al_2O_3	16.3	*1.6*	13.8	*1.7*
$Fe_2O_3^t$	8.96	*2.3*	13.76	*2.2*
MnO	0.142	*2.1*	0.255	*2.8*
CaO	3.3	*3.4*	4.9	*2.5*
Na_2O	12.3	*1.4*	10.7	*1.4*
H_2O	0.13	*6.*	0.04	*15.*
Trace	**Conc./ppm**	***Rel. Unc. %***	**Conc./ppm**	***Rel. Unc. %***
B	1.42	*1.1*	1.07	*1.1*
Nd	66	*10*	62	*10*
Sm	10.0	*1.7*	10.6	*1.9*
Gd	15.0	*10*	16.0	*10*

Table 2. Chemical composition by PGAA[47] for the new "greenstone" axes[48]

[46] MS = magnetic susceptibility

[47] PGAA = prompt gamma activation analysis

[48] Abbreviations in Table 2: Conc.=concentration; wt%=weight percent, Rel. Unc.=relative uncertainty

	LDM 55.820						Porva				
Oxides (wt%)	Lcpx 01	Lcpx 02	Lcpx 03	Lcpx 04	Lcpx 05	Lcpx 06	Pcpx 01	Pcpx 02	Pcpx 03	Pcpx 04	Pcpx 05
SiO_2	60.18	56.41	59.94	57.03	58.97	60.93	56.16	56.94	57.59	57.79	57.38
TiO_2	0.00	1.55	0.00	2.03	0.00	0.00	0.00	0.00	0.46	0.39	0.00
Al_2O_3	20.74	8.13	18.73	9.05	15.95	20.14	12.70	9.80	13.09	13.56	12.39
FeO*	2.54	17.83	5.40	14.40	7.65	2.75	14.43	14.14	10.61	10.15	11.35
MnO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.22	0.00
MgO	1.55	1.84	1.45	2.08	1.97	1.56	2.72	2.70	2.45	1.97	2.80
CaO	1.25	2.95	1.26	2.85	2.33	1.35	4.62	4.47	2.78	2.23	3.65
Na_2O	13.73	11.29	13.23	12.56	13.14	13.26	9.36	11.94	12.74	13.69	12.44
TOTAL	100	100	100	100	100	100	100.00	100.00	100.00	100.00	100.00
Cations (based on 6 oxygens)											
Si	2.057	2.054	2.073	2.041	2.050	2.093	2.036	2.028	2.024	2.017	2.019
Ti	0.000	0.042	0.000	0.055	0.000	0.000	0.000	0.000	0.012	0.010	0.000
Al	0.835	0.349	0.763	0.382	0.653	0.815	0.543	0.412	0.542	0.558	0.514
Fe^3	0.000	0.256	0.000	0.299	0.133	0.000	0.044	0.356	0.254	0.314	0.297
Fe^2	0.073	0.287	0.156	0.132	0.089	0.079	0.394	0.065	0.058	-0.017	0.037
Mn	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.007	0.000
Mg	0.079	0.100	0.075	0.111	0.102	0.080	0.147	0.143	0.128	0.103	0.147
Ca	0.046	0.115	0.047	0.109	0.087	0.050	0.180	0.171	0.105	0.083	0.137
Na	0.910	0.797	0.887	0.872	0.886	0.883	0.658	0.825	0.868	0.926	0.849
End member proportions (%)											
En	40	13	27	17	25	38	19	20	23	21	24
Wo	23	15	17	17	21	24	23	23	19	17	22
Fs	37	72	56	66	54	38	57	57	58	62	54
Q	10	24	14	17	14	11	35	19	14	8	16
Jd	90	44	86	47	72	89	60	44	58	59	53
Ae	0	32	0	37	15	0	5	38	27	33	31

Table 3. Results of chemical analyses of pyroxenes by "original surface method" on SEM-EDS of LDM-55.820 Na-pyroxenite and Porva eclogite

Oxides (wt%)	grt01	grt02	grt03	grt04
SiO_2	38.26	37.97	37.88	39.08
Al_2O_3	22.69	21.03	19.72	22.15
FeO	32.53	34.11	34.69	27.44
Fe_2O_3	0	0	0.65	0
MnO	1.43	1.65	1.52	1.73
MgO	3.72	3.67	3.76	3.51
CaO	1.37	1.57	1.84	6.08
TOTAL	100.00	100.00	100.00	100.00
Cations (based on 13 oxygens)				
Si	0.048	0.043	0.046	0.085
Al	2.130	1.986	1.869	2.061
Fe^{2+}	2.167	2.286	2.333	1.811
Fe^{3+}	0.000	0.000	0.039	0.000
Mn^{2+}	0.096	0.112	0.104	0.116
Mg	0.442	0.438	0.451	0.413
Ca	0.117	0.135	0.159	0.514
End member proportions (%)				
SPS	3	4	4	4
PRP	16	15	9	14
ALM	77	77	82	63
GRO	4	5	3	18
AND	0	0	2	0
	100	100	100	100

Table 4. Results of chemical analyses of garnets by 'original surface method' on SEM-EDS of Porva, eclogite

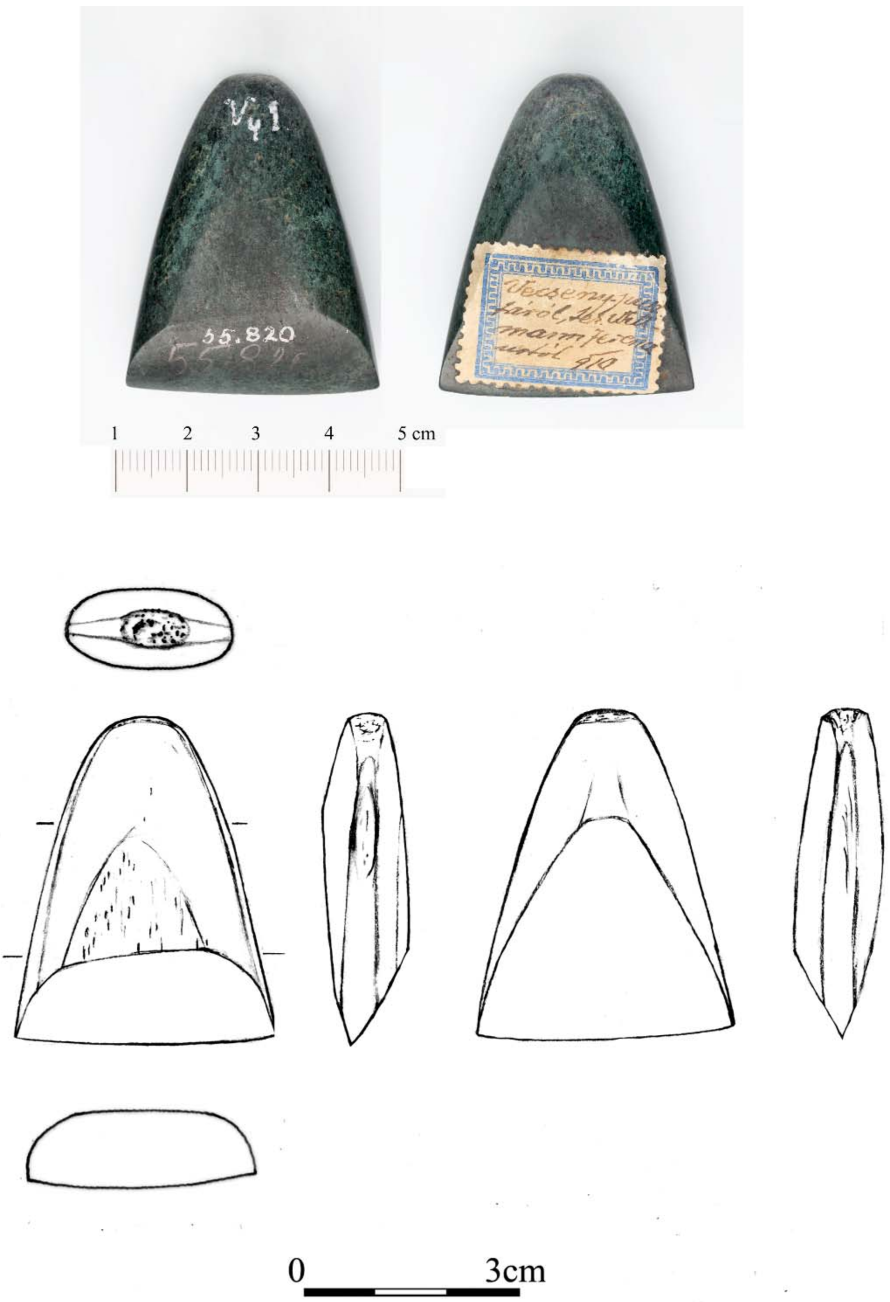

Fig. 1. Greenstone axe from Sikátor-Vecseny puszta, Laczkó Dezső Museum, Veszprém. Photo: J. Kardos, Drawing: K. Nagy.

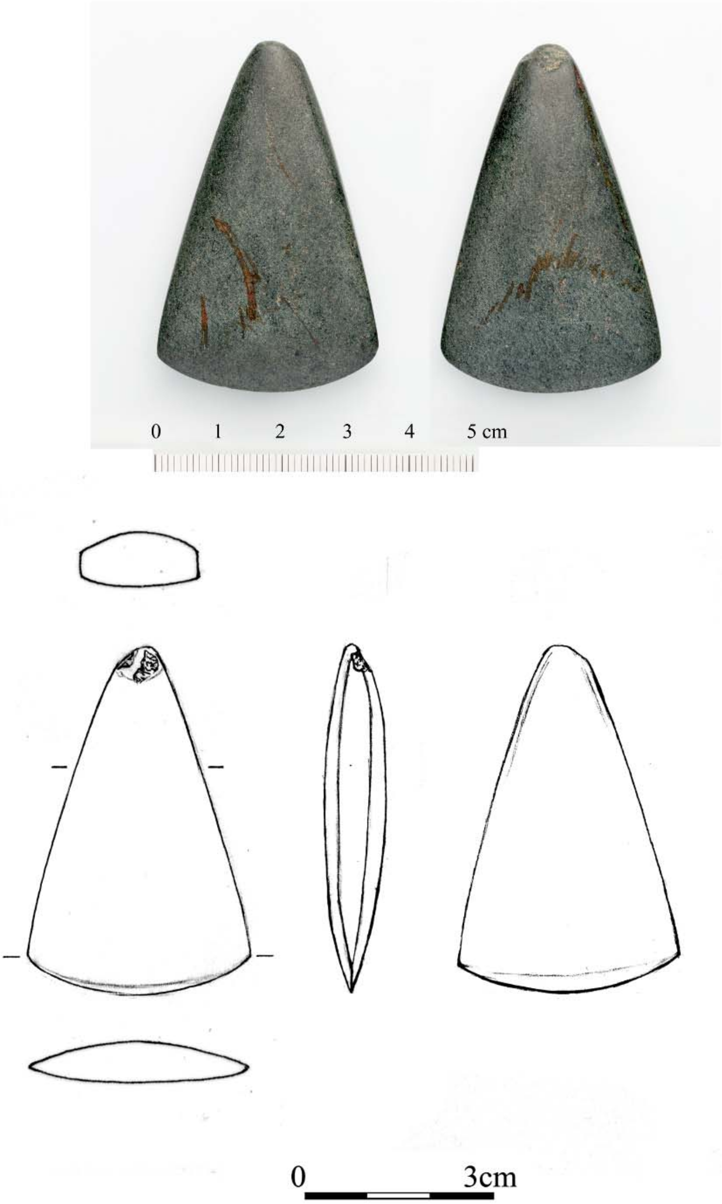

Fig. 2. Greenstone axe from Porva-Győri rétek, private collection of Ernő Wolf.
Photo: J. Kardos, Drawing: K. Nagy.

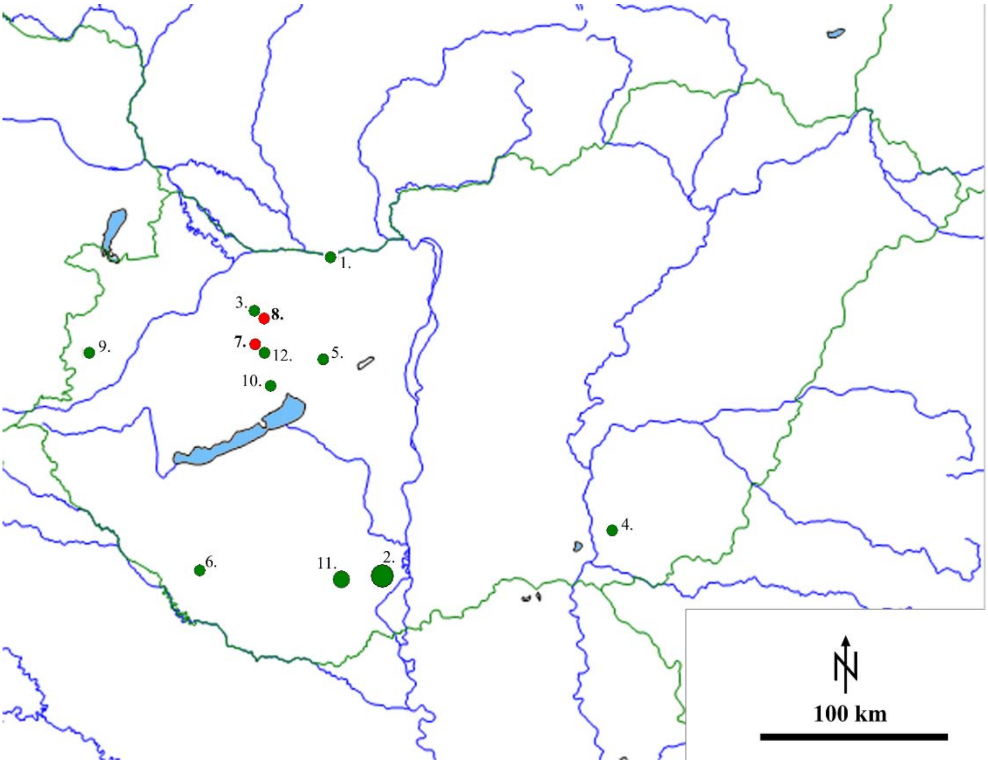

Fig. 3. Map of the HP-LT metaophiolite axes located so far in Hungary
Key: 1. Almásneszmély, 2. Alsónyék (6 pieces), 3. Bakonypéterd, 4. Gorzsa, 5. Iszkaszentgyörgy, 6. Lábod, **7. Porva**, **8. Sikátor**, 9. Szombathely, 10. Veszprém ?, 11. Zengővárkony (3 pieces), 12. Zirc. The axes presented here are highlighted in bold.
(Further jadeitite axes were located in the collection of the Hungarian National Museum from territories outside the present borders of Hungary, all of them from Slovakia (BENDŐ *et al.* 2015 fig. 1.)).

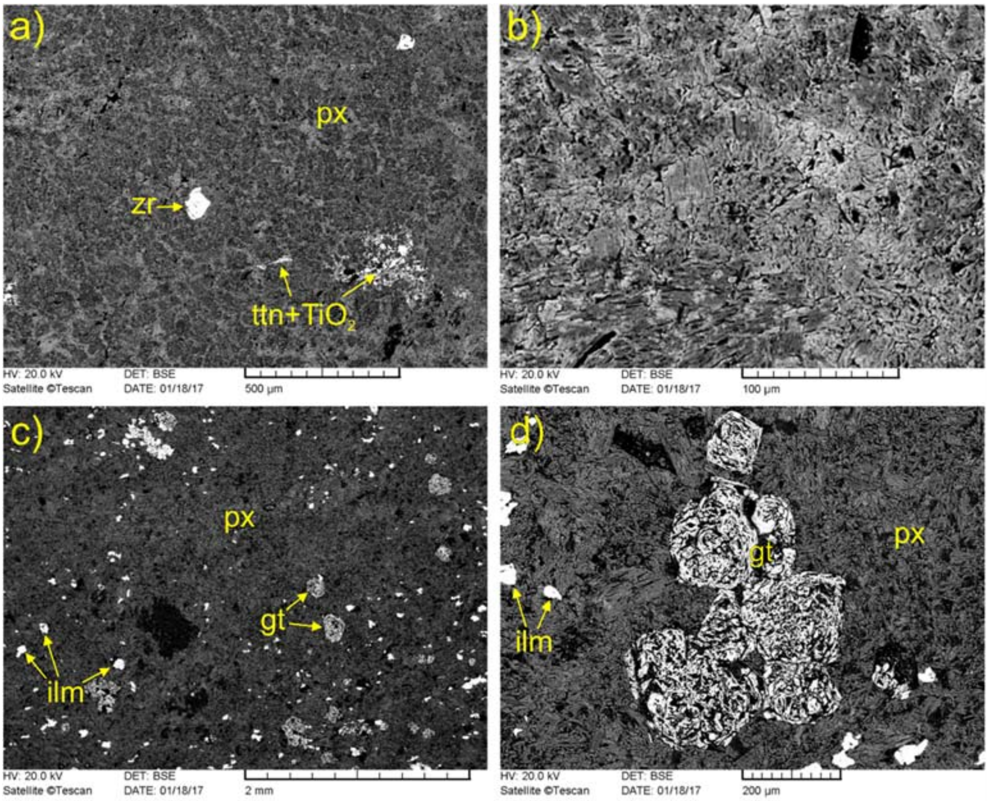

Fig. 4. Backscattered electron image (BSE) images of the original surfaces of the investigated stone tools. a) overview picture of LDM-55-820; b) overview picture of Porva-67/3; c) close-up picture of an accessory-free area built up exclusively by pyroxenes in LDM-55.820. The colour-zoning of the grains are caused by chemical differences. d) close-up picture of a garnet-aggregate in Porva-67-3. A slight zonation of the pyroxenes can be observed.

Px – pyroxene, gt – garnet, ilm – ilmenite, ttn – titanite, zr – zircon.

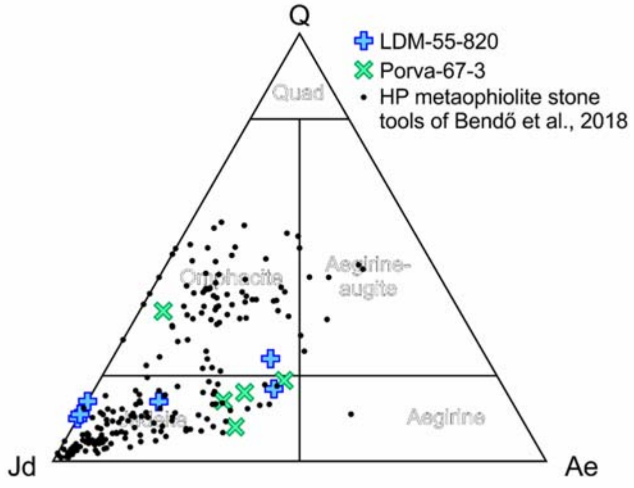

Fig. 5. Compositional diagram of alkaline pyroxenes by Morimoto *et al.* (MORIMOTO *et al.* 1988). Jd – jadeite, Ae – aegirine, Q – Ca-Mg-Fe-pyroxenes.

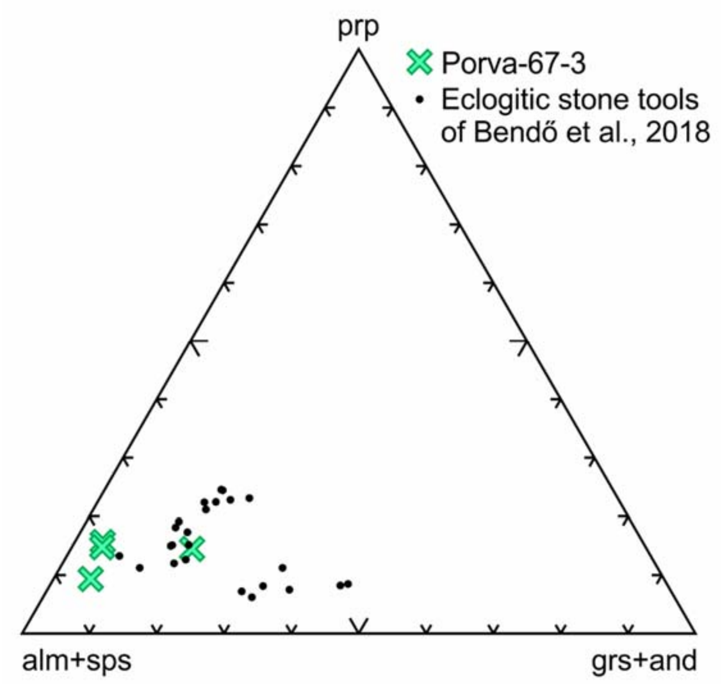

Fig. 6. Compositional diagram of garnets by Wright (WRIGHT 1938). Prp – pyrope, Alm – almandine, Sps – spessartine, Gro – grossular, And – andradite.

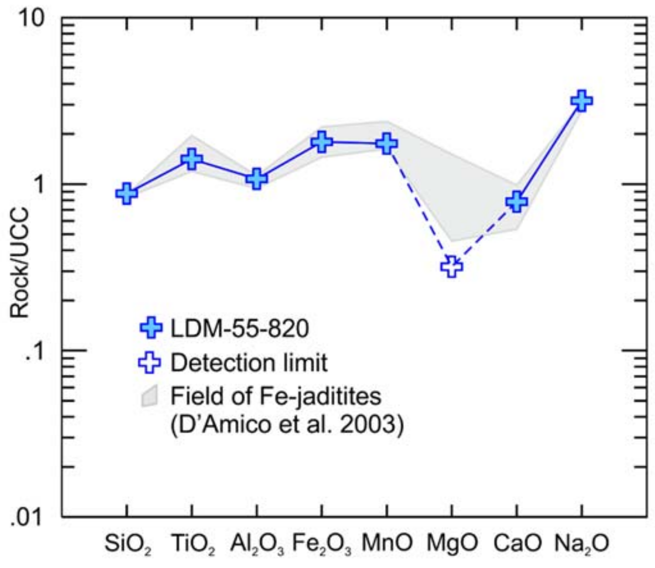

Fig. 7. Major element composition of Porva-67/3 normalized to Upper Continental Crust composition of McLennan, 2001 (McLENNAN 2001).

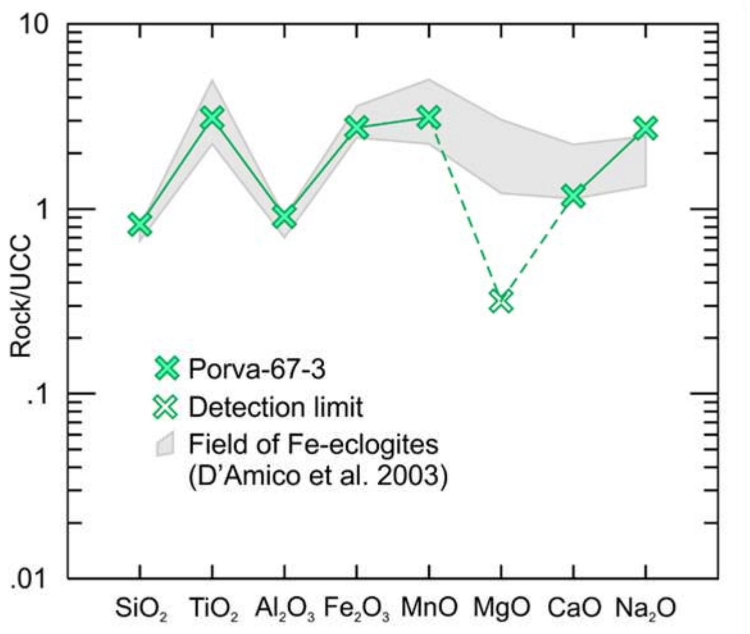

Fig. 8. Major element composition of LDM-55.820 normalized to Upper Continental Crust composition by McLennan, 2001 (McLENNAN 2001).

UNUSUAL CLAY ARTEFACTS AND THEIR IMAGERY FROM THE LATE NEOLITHIC SETTLEMENT OF ÖCSÖD-KOVÁSHALOM ON THE GREAT HUNGARIAN PLAIN

Pál RACZKY[1] *and András FÜZESI*[2]

Abstract: In the light of the results of the new magnetic prospection at Öcsöd-Kováshalom, a few characteristic sections of an enclosure system could be identified on Google Earth maps. The broader spatial context offers a new interpretative range for both the excavated archaeological features and the finds brought to light earlier. Here, we shall discuss the formal and ornamental traits of a few ceramic objects from the central tell-like settlement in the light of the new research results. The unusual ceramic finds from Öcsöd presented here were created in the context of the interaction between community practices, community creativity and the outside world in this particular space and time of the Late Neolithic.
Keywords: *Great Hungarian Plain, Late Neolithic, Tisza culture, Enclosure, Decorated ceramic objects, Ornamental compositions, Cosmovision, Social "message"*

"Compared with the traditional emphasis on the capacity of surface forms (e.g., façades or casings) to obscure what lies beneath or within, our approach suggests an emphasis on the weave of surfaces, or what could be called their textility"[3].

Cornelia Magda Lazarovici's archaeological activities attest to her never-flagging interest in the general dynamics of European prehistory and in the smaller, human details of prehistoric life. Looking beyond the primary function of archaeological artefacts, she has always shown a very special interest in the possible symbolic role of these relics of prehistory and has never failed to offer a credible interpretation of how they had been used.

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[3] ANUSAS, INGOLD 2013: 67.

Materiality and Identity in Pre- and Protohistoric Europe
Homage to Cornelia-Magda Lazarovici

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Our contribution to her *Festschrift* addresses an archaeological issue that resonates with her remarkably fine-tuned archaeological sensitivity. Presented, described and discussed here are a few remarkable objects from the Öcsöd-Kováshalom site, which will hopefully be to her liking in every sense.

The Öcsöd-Kováshalom site has since long occupied a prominent place in Hungarian Neolithic studies. The tell-like settlement, one of the important sites of the Tisza cultural unit of the Late Neolithic, lies in the Tiszazug micro-region enclosed by the Tisza and Körös rivers (Fig. 1). According to the topographic data, there are ten other single-layer Tisza settlements in this zone, forming a distinct settlement network. The spatial organisation of the Öcsöd site features eight settlement nuclei, among which the stratified settlement occupied a central location. Two occupation phases could be distinguished on the tell-like settlement core that spanned some 2-300 years. The spatial organisation of both occupation phases was characterised by the orderly arrangement of houses. The house cluster of the early (Tisza I) phase was enclosed within a rectangular ditch. The houses were surrounded by burial groups aligned to the houses/house rows and intensely used activity areas with pits[4].

The magnetic prospection undertaken by Knut Rassmann and his team in late February 2018 set the previous research findings in an entirely new perspective (the survey was conducted between February 25 and March 1, 2018, with the generous support of Eszter Bánffy and the Römisch-Germanische Kommission). It became clear that the settlement complex had once been ringed by a triple enclosure. In the light of the results of the magnetic prospection at Öcsöd-Kováshalom, a few characteristic sections of the enclosure could be identified on GoogleMaps (Fig. 2, a-b). In terms of its formal traits, this enclosure represents a so-called pseudo-ditch, which was created through a series of repetitive actions, which essentially involved the repeated digging of certain ditch sections and their subsequent backfilling[5]. The periodically performed, intertwined community actions created a long-term system with a uniform structure on the site. In this sense, the ditch sections "were part of the attaching ritual to locale" as defined by C. Gamble, carried out during certain social gatherings[6].

This raises the question of whether the area ringed by the enclosure with its eight settlement nuclei and the central mound had been an ordinary settlement area or whether it had been a special location with some sort of symbolic function. It seems possible that the two functions – the ordinary settlement and the area of symbolic actions – had formed an intermeshed unit in the environment. Another issue that calls for further studies is whether the continuous construction of the enclosure can be solely linked to the local community, or whether the population of the micro-region had also participated in these

[4] For a detailed discussion, see RACZKY, FÜZESI 2016a.

[5] LEFRANC *et al.* 2017.

[6] Cited by BAILEY 2018: 34.

special community actions. These questions can only be answered by further detailed investigations.

Judging from the macro-structures, the geometry of the spatial organisation of the Öcsöd settlement was essentially determined by a blend of circular and rectangular forms. The larger spatial segment of the entire settlement was dominated by the circular enclosure system around it, while the enclosed inner area by rectangular structures. The enclosure ringing the central settlement mound and the rectangular houses with the fence system were a continuation of the same geometric basic modules [7] (Fig. 2, b, Fig. 3). This spatial synthesis intermeshed circular and rectangular architectural archetypes at various scales in the interlocking spatial segments[8]. The broader spatial context offers a new interpretative range for both the excavated archaeological features and the finds brought to light. The complex spatiality of the Öcsöd site provides an entirely new perspective on the results of previous research[9]. Here, we shall discuss the formal and ornamental traits of a few ceramic objects from the central settlement (Fig. 3) in the light of the new research results.

I. A SPACESCAPE RINGED BY AN ENCLOSURE

1. The new data on the settlement's spatial organisation sets the interpretation of a previously already published unique bowl in an entirely new perspective[10]. The conical bowl is set on a pedestal with four fenestrations standing on a flat, solid disc. The base of the pedestal is covered with concentric circular channelling and small double knobs are set opposite each other at the base of the fenestrations. The latter possibly symbolised the entrances through the enclosures denoted by the concentric circles (Fig. 4). The geometric essence of the system expressed on the circular base was the intermeshing of the circle and the straight lines, which together defined a circular spacescape divided into four segments.

In an earlier study, we interpreted this remarkable lower half of the Öcsöd vessel as the depiction of a special building/house/sanctuary[11]. We would now rather contend that it is a representation of the entire Öcsöd settlement ringed by circular enclosures and its cosmic embeddedness. The special significance of this vessel-sculpture is accentuated by the red paint covering its surface and the yellow pastose paint applied in the vessel highlighting the concentric design. Aside from its form, this ornamental technique too provides important clues as to the possible function and use of this unusual vessel.

The use of pastose paint would suggest that the vessel was not intended for domestic use because the interior painting would soon have worn off had it been used on a daily

[7] RACZKY, FÜZESI 2016a: Fig. 15.

[8] BRADLEY 2012.

[9] RACZKY 2009; RACZKY 1987; RACZKY, FÜZESI 2016a; RACZKY, FÜZESI 2016b.

[10] RACZKY 1990: Abb. 111; RACZKY 1987: 27, Fig. 27; RACZKY, ANDERS 2012: Fig. 21.

[11] RACZKY, ANDERS 2012: 297.

basis. The yellow pastose painting on the upper part was worn, indicating that it had been filled with some liquid at certain times and that the vessel had been used for manipulating this liquid substance. The special nature of these actions is accentuated by the vessel's unusual form. It was intentionally broken at the end of its use-life and its fragments were deliberately scattered across the settlement, a practice observed at several other sites too[12].

The fragments of the pedestalled bowl came to light under House 3 (Fig. 3), from a fill level that covered the entire settlement mound and separated the early and late occupation levels and their houses[13]. In our new approach to the vessel's interpretation, the composition of the pedestalled bowl can be seen as the material expression of a space-time structure, the symbolic correlate of a genuine macro-architecture constructed as a communal undertaking. This vessel-sculpture thus expressed the building activity of a human community and its position in the cosmic environment, in the "world", according to the institutionalised order of one particular period. This would imply that the small clay model from Öcsöd was linked to a specific spatial configuration and that it was discarded because it was no longer suitable for expressing a new spatial order.

Taking our cue from Wendy Ashmore, we are inclined to regard the vessel as an object functioning as a three-dimensional encapsulation of the cosmovision of the Late Neolithic community living at Öcsöd-Kováshalom[14]. However, the elements used for creating this structured image occur in many forms in the material from the site. The motif of concentric circles was a popular ornamental motif in the Tisza I material, appearing mainly on small- and medium-sized closed vessels (although occasionally also on open ones). However, in these cases, it did not necessarily always convey the same meaning[15].

2. An incised geometric design with an essentially similar symbolic meaning can be found in the interior of a bowl set on a low pedestal. This hitherto unpublished bowl was recovered from Pit 37 of the Öcsöd settlement (Fig. 3, Fig. 5). The design of triple concentric circles around a central point resembles the ornamentation on the base of the pedestalled bowl discussed in the above. Arranged around the concentric circles are incised lines terminating in a dot arranged radially. The circular geometric motif and the straight lines essentially depicted a similar spatial structure as on the bowl set on a fenestrated pedestal. The liquid once poured into the vessel created a fluid connection between the human action and the geometric spatial order as represented with the straight and circular elements[16].

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12 CHAPMAN, GAYDARSKA 2007: 2-10.

13 RACZKY, FÜZESI 2016a; RACZKY, FÜZESI 2016b.

14 ASHMORE 2015: 293.

15 RACZKY 1987: Fig. 6, 8, 11, 46.

16 INGOLD 2010: 99-10.

II. The ornamental compositions of clay lids

3. A small, round, flat lid was recovered from Pit 11 of the Öcsöd settlement whose form and ornament blends elements of anthropocentric and cosmic visions, and in this sense, it is closely allied to the imagery of the previous two clay objects (Fig. 3, Fig. 6).

The round form of the small lid acts as the geometric frame providing the essential context[17]. The flat lid is covered with radially arranged chevrons forming an outward widening design and dividing the lid into four segments. The other visual focal element, a small human figure modelled from the wais up, is set in the centre of the chevron pattern of two to four lines. The two arms are raised, the head with its flat triangular face looks upward. The human figure, the central element of the composition, stands in the "world" of a circular horizon divided into four segments. The two arms and the face point towards the third dimension and in this sense, the composition of the lid evoked a three-dimensional spatiality.

4. Thematically, the fragment of another flat lid (Fig. 3, Fig. 7) recovered from the lower occupation level of the tell-like settlement at Öcsöd, from a sounding opened in 1980, can be assigned to the same formal group as the previous lid[18]. The surviving portion of the lid bears the depiction of an incised human figure with lozenge-shaped head and a chevron at each shoulder. Its left arm is lifted. Two small rectilinear motifs accompany the depiction along the edge. János Makkay interpreted the central human figure as the portrayal of a dancing figure[19]. The upraised arm is certainly an important detail and one that recurs on several Late Neolithic depictions on the Hungarian Plain. This gesture is very emphatic in the case of the figure on the Öcsöd lid. Another key element is that the head of the figure is set in the lid's centre, while its feet are place on the edge. This composition depicts the main figure in a disc-shaped "spatiality". Regrettably, we do not know the ornamentation of the lid's missing portion; however, the complementary motifs would suggest that it was covered with a sophisticated imagery. A similar round lid with a comparable design of an comb-like incised figure with its feet on the lid's edge is known from Hódmezővásárhely-Kökénydomb[20].

5. Part of another complex imagery can be seen on a flat handled lid found in the fill under House 2. The surviving portion of the lid is covered with an incised pattern of geometric motifs (Fig. 3, Fig. 8). It is possible that a similar geometric ornament accompanied the human figure of the previously described lid. Given its stratigraphic context, the lid can probably be associated with the renewal of a building (House 5) of the preceding Tisza I period. The composition is rounded off with one special motif at one end

[17] RACZKY 1987: 71, Fig. 18; RACZKY 1990: Abb. 102.

[18] RACZKY 1987: 71, Fig. 20; RACZKY 1990: Abb. 104.

[19] MAKKAY 2006: 81, note 13, Fig. 2. 2.

[20] BANNER 1931: Taf. XXXVII. 8.

of the handle and two similar motifs at the other. The vertical lozenge motifs have an impressed dot in their centre; the lines forming the sides break at an angle and are interrupted by a gap. This motif appears on other objects of the ceramic inventory from Öcsöd[21]. A similar complementary motif can be seen on the lid with the incised human figure too. According to Elisabeth Ruttkay, the lozenge form appears as an independent motif on the extraordinary clay artefacts of the Central and South-East European Neolithic. On the testimony of a vessel from Střelice, the combination of certain ornamental motifs often functioned as separators of decorated panels[22].

The other distinctive trait of the Öcsöd lid is the pattern of incised stepped bands filling the semicircular field. The bands are oriented rightwards on the right side and leftwards on the left, creating the impression of a structured composition with the geometric elements oriented to the right and the left according to a preconceived design.

József Csalog's experimental archaeological work between 1940 and 1960 and his stylistic analyses provide an excellent springboard for the interpretation of the geometric motifs in the ornamentation of the Öcsöd lid[23]. In his studies on the geometric designs on the vessels of the Tisza culture, he demonstrated the correlation between the culture's ornamentation and the patterns of plaited mats. To his keen eyes, the significance of the imprint of plaiting on a vessel base from Hódmezővásárhely-Kökénydomb was immediately obvious, and this observation acted as his springboard for demonstrating the correlations between the patterns of plaited mats and the incised geometric ornament covering Tisza pottery. As part of his experiments, he plaited painted and plain paper strips to reproduce the patterns that also occur on the ceramics from Öcsöd[24]. In the wake of his experimental studies, he termed the ceramic ornamental style of the Tisza culture the "textile style" (*Textilstyl*)[25].

József Csalog's studies in this field were more recently taken up by Éva Richter in her studies on prehistoric weaving and plaiting techniques[26]. She published a vessel base dating from the Tisza I phase found at Öcsöd-Kováshalom preserving the imprint of a twill plaited mat[27]. Her studies have convincingly demonstrated that the patterns of plaited mats and basketry provided the main inspiration for the incised geometric designs of Late Neolithic pottery[28].

[21] RACZKY 1987: 70, Fig. 13, 28.

[22] RUTTKAY 1999.

[23] CSALOG 1966; CSALOG 1956; CSALOG 1955; CSALOG 1941.

[24] CSALOG 1966: Abb. 1, Abb. 5, Taf. II: h, h1; CSALOG 1956: Fig. 1, Fig. 5-6; CSALOG 1955: 4. ábra – Fig. 4; CSALOG 1941: Taf. 1: 2, 2a, 3, 3a.

[25] CSALOG 1941: 5, 19.

[26] RICHTER 2005; RICHTER 2003.

[27] RICHTER 2005: 125, Fig. 4: a-d.

[28] CHAPMAN, RICHTER 1999; CHAPMAN 2014: 402-404.

The social implication of the above must here be accentuated. Textile twining and the plaiting of mats and baskets were part of the tasks performed by women from the turn of the sixth and fifth millennia BC[29]. The objects created during these activities and the surface structures (the geometric patterns) can thus be set in this broader context. Complex imageries were created through these woven and plaited patterns that appeared in the milieu of female craft activities. This emergent imagery could only be translated into clay if this activity, namely potting, was also an organic part of female activities. Potting is generally associated with women in societies characterised by a domestic mode of production, or in cases when a simple technology was involved that did not call for specialised knowledge[30].

Female craft activities in the division of labour in the Neolithic created an institutional system around textility and pottery making. Textile patterns played a prominent and emblematic role in these genres that made a forceful visual impact. The growing sophistication of the repertoire of forms and ornamental patterns provided not only an opportunity, but also a demand for the more explicit expression of female roles, and thus had an impact on how gender was conceptualised, of which one spectacular expression is embodied by the anthropomorphic statuettes from Szegvár-Tűzköves. The body of the well-known seated male figure wearing a mask and holding a sickle over his shoulder is undecorated, save for an incised belt. In contrast, the body of the similarly seated female figurine is covered with a profusion of geometric motifs arranged into panels, which can be regarded as a similar attribute as the sickle[31]. The distinctive iconographic traits of the Szegvár statuettes can also be viewed in the context of how gender differences were portrayed[32]. Viewed from this perspective, the activities performed as part of the community division of labour were projected onto the male and female bodies sculpted from clay, and thus the interrelated work processes offer one of the most convincing examples of what T. Ingold described as the "textility of making"[33].

The ornamental repertoire of the "textile style" in the Neolithic of the Tisza region[34] also offers clear proof that it was not created from a pre-existing mental scheme (according to a hylomorphic model), but rather that it came into existence during the dynamic process of the work itself[35]. In József Csalog's view, design variants that could be genuinely reproduced by plaiting could be clearly distinguished from the patterns that were mere

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[29] CHAPMAN, PALINKAŞ 2013.

[30] RICE 1987: 184.

[31] CSALOG 1972: Abb. 10, Taf. 17-19; KOREK 1990: Abb. 68; KOREK 1987: 53, Fig. 14.

[32] ROBB, HARRIS 2018: 134.

[33] INGOLD 2010.

[34] SEBŐK 2017.

[35] ARPONEN, RIBEIRO 2014; INGOLD 2000.

imitations in the ornament of Tisza pottery[36]. He modelled the repetitive stepped pattern by taking painted and plain paper strips and by using a painted strip for each fourth crosswise strip[37] (Fig. 9, b). Theoretically speaking, the warp fibres were repeated in a binary numeral system, while the weft fibres in a quaternary numeral system, which created the stepped pattern. The shift from genuine plaited patterns to imitation ones marks the point when the ceramic textile style became independent of actual weaving and plaiting, and became a design expressing human creativity. The design on the Öcsöd lid quite certainly represent the latter, in other words, this pattern is but an imitation of the actual woven or plaited patterns.

One good counter-example is the design of the renowned triangular "altar" from Hódmezővásárhely-Kökénydomb, which reproduced the design of genuine plaiting in a composition resembling the one on Öcsöd lid[38]. The wide field under the triangular face has a rightward oriented stepped pattern on the right side and a leftward oriented stepped pattern on the left side, essentially mirroring each other. The two ornamental fields meet and blend into each other under the chin of the triangular face (Fig. 9, a) suggesting a preconceived mental scheme behind the imagery.

The incised motifs on the Öcsöd lid lack the homogenous structure of the plaited pattern on the Kökénydomb altar and highlight certain select elements for expressing the essence of the preconceived design. This would imply that following the transfer of the repetitive patterns of plaited designs onto the ceramic vessel surface, a new element was introduced, namely that certain ornamental motifs were divorced from their original context and began functioning as independent signs to which some meaning was ascribed.

One good analogy is the transmission of the human voice using electromagnetic waves. The waves of differing frequencies and amplitudes of the human voice as well as the information conveyed are transposed to the electromagnetic waves spreading after being converted by the microphone. The modulation process of electromagnetic waves enables the transmittal of the "message". A similar process can be assumed in the case of the Late Neolithic Tisza culture: the social "messages" deemed important in a particular milieu were transposed onto the waves of ceramic ornament.

The earlier plain ornamental elements became canonised visual expressions with a well-circumscribed meaning on certain vessels and in the case of special clay objects[39]. The process can be conceptualised as an activated sign and meaning making on one particular artefact group within ceramics, a phenomenon also noted in other cultural milieus[40]. It can be clearly demonstrated that the decorative repertoire of Tisza pottery included not only

[36] CSALOG 1966: 26-32.

[37] CSALOG 1956: 185, Fig. 5-6.

[38] BANNER 1942: Taf. I: 1-5; KALICZ, RACZKY 1990: Abb. 12.

[39] SEBŐK 2017: 8-13.

[40] PREUCEL 2006: 233-238; CEMPBELL 2010.

geometric motifs derived from the plaiting technique, but also figural elements, and that these were arranged into panels on vessel surfaces to create sophisticated imageries[41].

Removing specific ornamental elements from the original "plaited" background led to the metaphoric correlation between ornament and social actors in the imagery of the given material context. In the case of the stepped motifs on the Öcsöd lid, we may assume that they were depiction of humans, with the leftward oriented motif depicting females who had been interred crouched on the left side and the rightward oriented motifs portraying males. The space "animated" with human figures appears to have been structured according gender-based rules in which a distinction between right and left played a prominent role. Although only part of the Öcsöd burials have yet been anthropologically assessed, Zsuzsanna Siklósi could demonstrate that most of the graves with male burials had the body crouched on the right side, while the female burials were crouched on the left side[42] (Fig. 9, c-d). The size of the ornamental motifs on the Öcsöd lid perhaps denoted the dimensions of age. The smaller elements are possibly the children who were also differentiated according to sex. It seems to us that the combination of the geometric ornamental motifs represented the members of a social community – men, women, girls and boys – in a semicircular spatial segment framed with geometric elements having a symbolic meaning. This would imply that the occupants of the Öcsöd-Kováshalom settlement had a culturally constructed set of norms based on sex and age groups. This Late Neolithic gendered system was typical for the southern Hungarian Plain[43] and can be seen as the forerunner of the age-sex cultural correlation demonstrated in the Copper Age cemetery of Tiszapolgár-Basatanya some five hundred years later[44].

F. The fragment of a conical clay lid came to light by the northern edge of House 10 occupied during the Tisza I period (Fig. 10). Preserved on the surviving conical part of the lid decorated with four animal heads is a design made up of ornamental motifs imitating genuine plaiting arranged into two main segments that were separated by a plain band with small handles. The spatial distribution of the design is thus made up of four animal heads, two segments and four fields.

This object fits into the series of objects discussed in the foregoing not merely owing its textile ornamentation and division of space. Its extraordinariness is reflected by the four modelled animal heads on the upper part of the knob handle (one of the heads is sadly missing). Small impressed dots symbolise the eyes and the nose on the upward-looking triangular faces. The upper part of the heads is grooved, as if depicting a forehead with ears or horns. A ladder-like motif is incised on the neck of three heads. The vertical beams are composed of a double line on two and of a single line on one, whose ends break at an angle,

[41] RACZKY 2000; SEBŐK 2017.

[42] SIKLÓSI 2013: 147.

[43] SIKLÓSI 2013: 257.

[44] SOFAER DEREVENSKI 1997; CHAPMAN 2000: 75-124.

similarly as on the lid discussed in the above. One ladder has two lines for the rungs, while the other two have three lines. Proceeding clockwise, the combination of vertical and horizontal lines can be described with the 1-3-1, 2-3-2 and 2-2-2 formulae, suggesting that in addition to four animal heads, some significance had probably been attached to the incised ("distinctive") sign on the necks of three out of four heads. The number of lines making up these signs is perhaps an indication of a rudimentary numerology as recently suggested by John Chapman[45].

III. Discussion

The form and imagery of the objects presented under Nos 1-6 in the foregoing feature certain elements that link them to each other thematically and provide a convenient springboard for a discussion of their broader context.

On the first two objects (Nos 1-2), multiple concentric circles represent the essence of the imagery. Nos 3-6 are round lids which embodied the circular geometric space tectonically, providing the frame for the imagery they enclose. The circular spaces embodied or depicted on these objects are divided into two or four segments, which can be clearly seen on Nos 4 and 5, and Nos 1, 3 and 6 respectively. The four animal heads on the lid described under No. 6 and the division of the lid's surface into two main segments and two further fields simultaneously expressed the two-fold and four-fold structuring of space. The signs incised under the animal heads are examples of symbolic thought and can be conceptualised as a special genre of material symbolic storage[46]. The extent to which the division of space according to strict rules permeated the imagery of Late Neolithic pottery is illustrated, among others, by a bowl from Hódmezővásárhely-Gorzsa whose interior is divided into four segments, each enclosing a painted round blob, by two intersecting black-painted bands[47]. One distinctive trait of the Late Neolithic Tisza ornamental style is the geometric design covering the vessel surfaces divided into two or four fields, the latter often separated by anthropomorphic motifs[48].

Another distinctive trait of some of the objects discussed here is that they all depict an anthropomorphic main figure that is somehow associated with a geometric centre, as illustrated by the modelled and incised elements on two lids (Nos 3-4). The upraised arms not only symbolise a special gesture, but also indicate the frame of visual thought in a third dimension. The analysis of the iconography of a large face pot from Öcsöd demonstrated that the face depicted on the vessel neck represented the central figure dominating the

[45] CHAPMAN 2014: 404-406.

[46] RENFREW 1998.

[47] HORVÁTH, PALUCH 2005: 277, 120 a-b.

[48] SEBŐK 2017.

entire vessel body[49]. The number of modelled arms on the vessel's right and left side is a clear indication that the vessel was not a reference to one particular individual, but to a group, and that it expressed a group identity. The division into four segments was expressed by four standing human figures in the field around the vessel shoulder under the main figure (Fig. 11). The emergence of this geometric order and the underlying norms of the new imagery can be dated to the later Alföld Linear Pottery period. One good example is a large storage jar from Polgár-Piócás-dűlő whose body bears the depiction of a modelled female figure flanked by pairs of human figures with arms held in different positions in the panel underneath[50]. In essence, the modelled image representing the corpus of the upper "world" has a visual horizon divided into four segments, in which the right and the left sides are characterised by two different postures. The preserved portion of the lid described under No. 5 probably depicts the lower half of a space divided into two segments in which the individual signs possibly denote gender-differentiated human figures.

In sum, it seems to us that the unusual ceramic objects from Öcsöd were intended to represent a circular space. This circular space was divided into four segments on some of these objects and into two segments on others, but always with a human figure expressing some kind of group identity in the centre. It would be tempting to assume that the circle divided into four segments was intended to denote the life-horizon of the human community and its four cardinal directions. In other cases, the two segments of the circle perhaps depicted the two realms above and below the everyday horizon in a two-dimensional mode. In our interpretation, the circle variously marked the boundaries of a horizontal or vertical dimension. Viewed from this perspective, the clay objects from Öcsöd were meaningful depictions of the spacescapes of the world around the settlement and its community. These images in clay recorded the cosmovision of the Late Neolithic community[51] and at the same outline the interpretative ranges of the period's figural and abstract symbolic system.

The unusual ceramic finds from Öcsöd presented here were created in the context of the interaction between community practices, community creativity and the outside world in this particular space and time. Various extraordinary objects (vessels) and their contexts created a special horizon during the Tisza I phase on the mound, the central area of the former settlement complex overlooking the watercourse, as part of its closure (Fig. 3). The community depicted certain force lines of its own lived experience in the compositions covering these special vessels. Whenever these vessels were used (when liquid was poured into them or when they were used for covering another vessel as a processual act), they created and re-affirmed the harmonic unit between the outer world

[49] RACZKY 2000: Fig. 1, Fig. 4.

[50] NAGY *et al.* 2014: Fig. 11.

[51] ASHMORE 2015.

(such as the circular enclosure as an object) and the internal world (the human community as a subject) represent on and through them[52].

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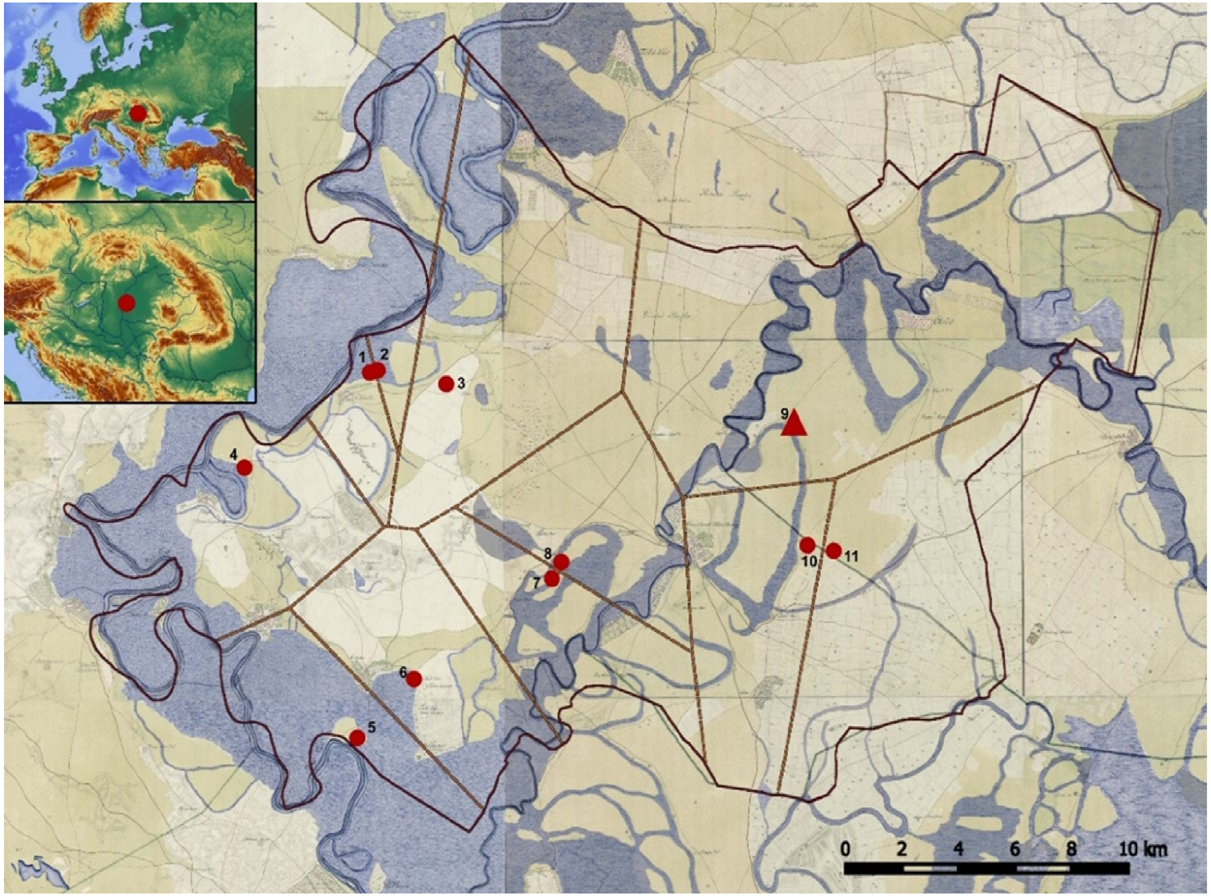

Fig. 1. Late Neolithic tells, tell-like and single-layer flat settlements on the Hungarian Plain and the location of Öcsöd-Kováshalom (after RACZKY *et al.* 1994).

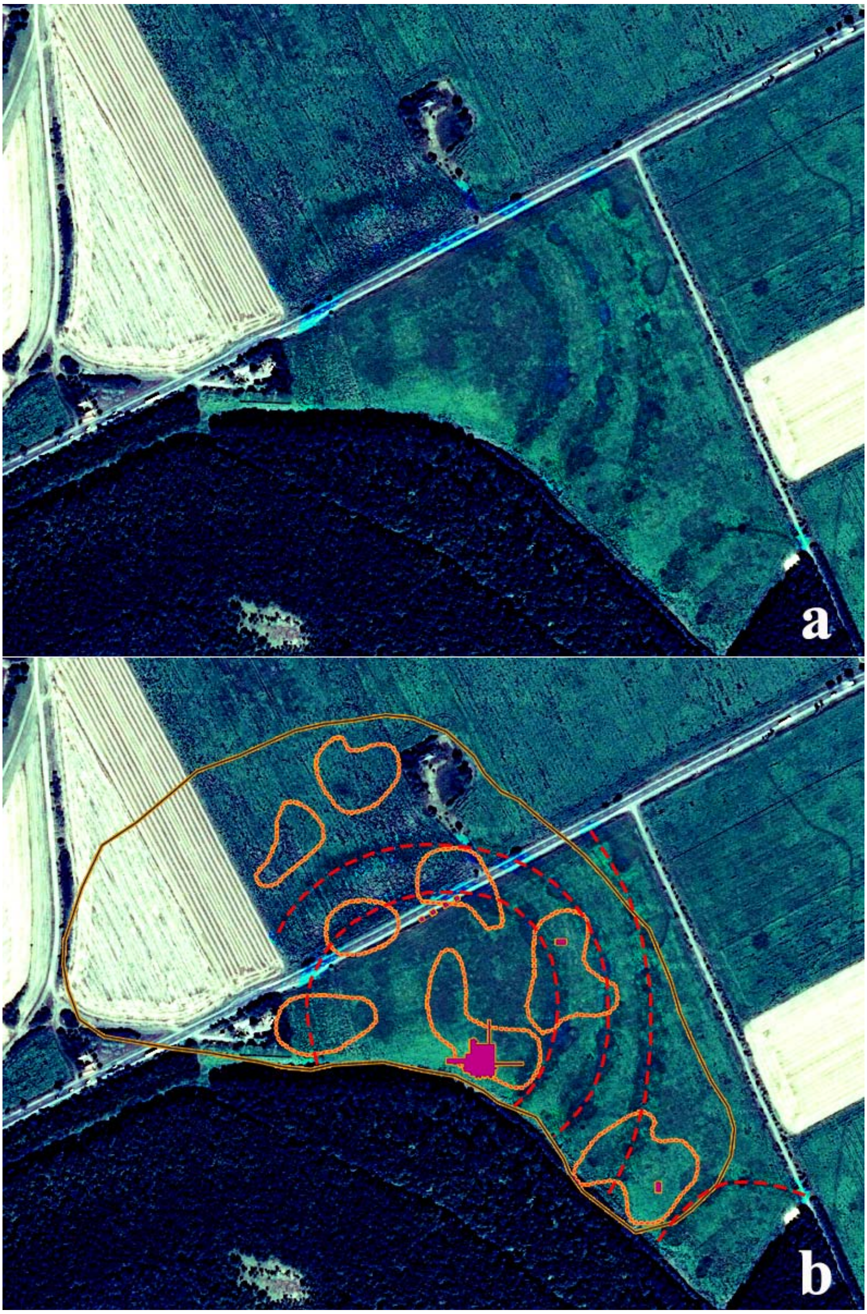

Fig. 2. a - Öcsöd-Kováshalom. Google Earth image showing the remains of a "pseudo-ditched" enclosure around the main tell-like settlement section. b - Öcsöd-Kováshalom. Interpreted Google Earth image showing the extent of the settlement complex, the eight intensive settlement nuclei, the probable lines of the "pseudo-ditched" enclosure and the location of the main excavation trenches in the tell-like settlement area.

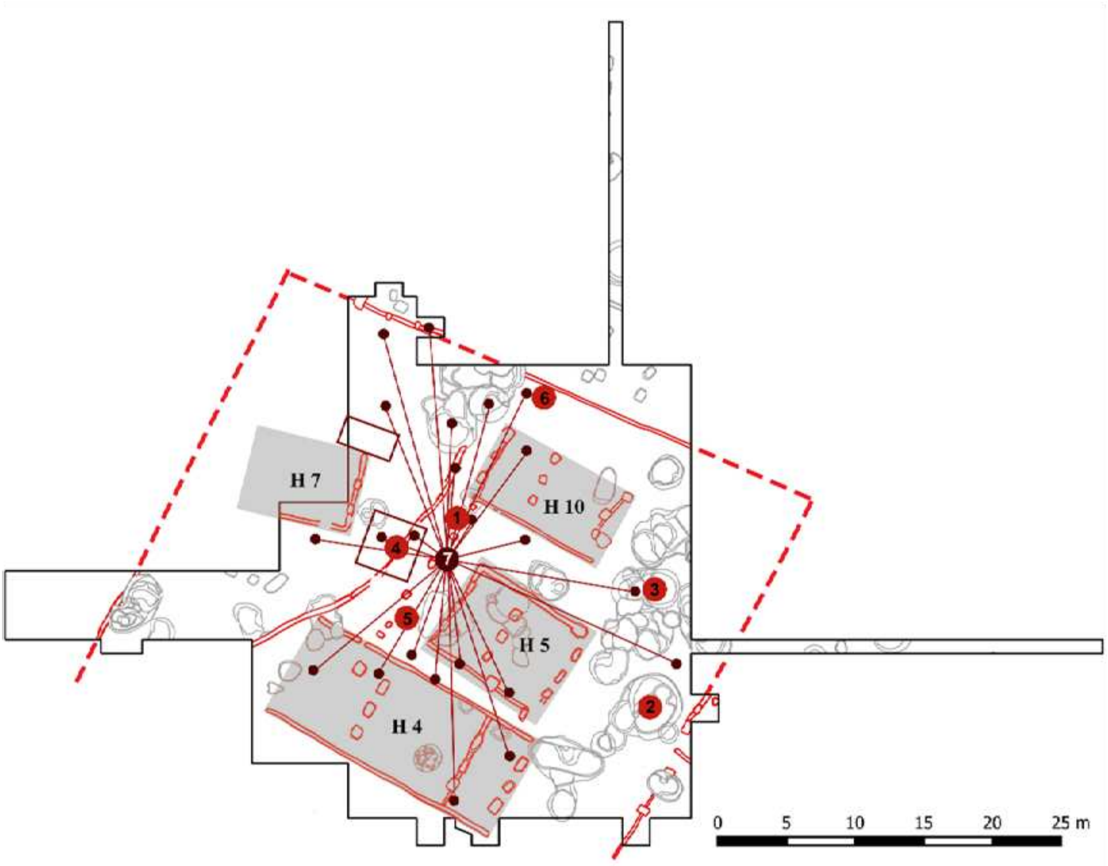

Fig. 3. Öcsöd-Kováshalom. 1-6: Horizontal distribution of the vessels discussed here, 7: Location of a special face-pot with its registered fragments in the Tisza I occupation level.

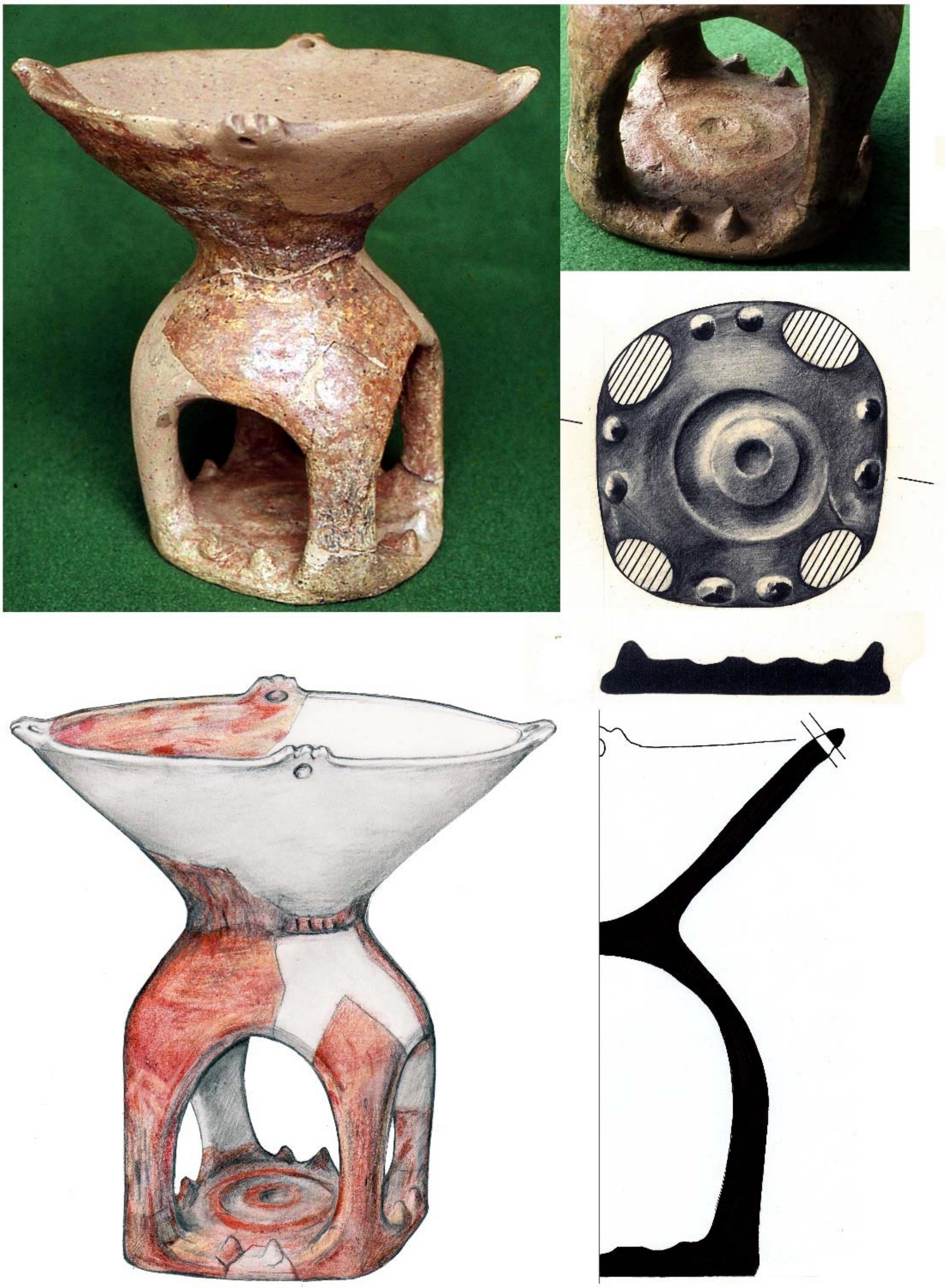

Fig. 4. Öcsöd-Kováshalom. Red- and yellow-painted bowl with a fenestrated pedestal and a circular channelled design on its base.

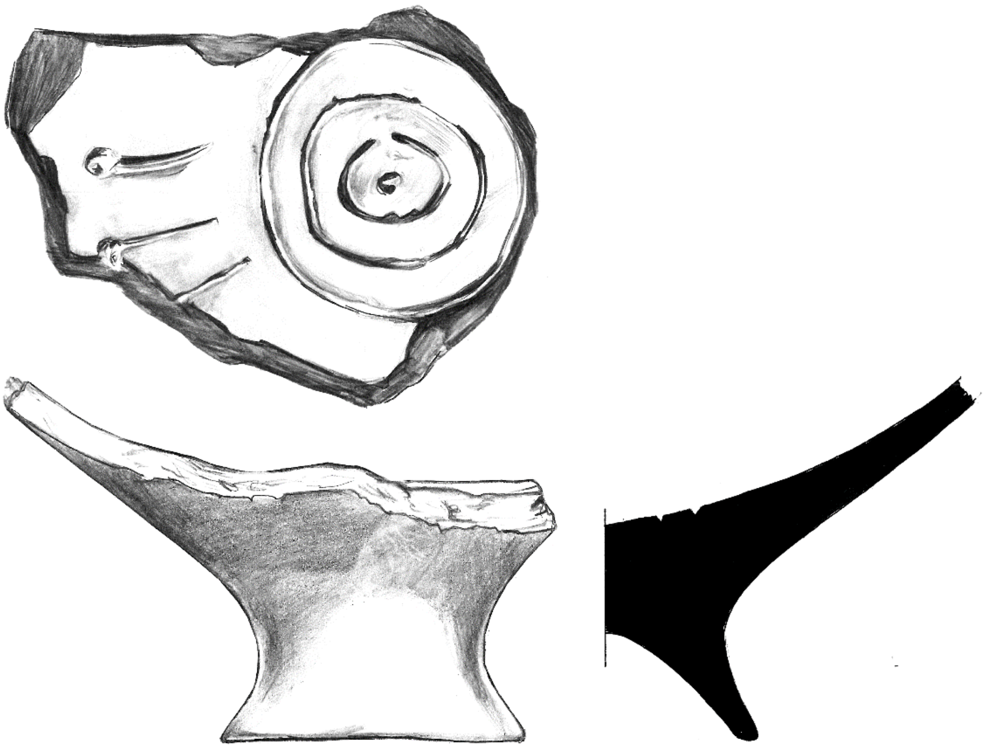

Fig. 5. Öcsöd-Kováshalom. Lower part of a vessel with an incised concentric circular decoration inside.

Fig. 6. Öcsöd-Kováshalom. Flat lid with a handle in the form of a stylised human figure and incised decoration arranged in four segments.

Fig. 7. Öcsöd-Kováshalom. Fragment of a flat lid with the incised stylised depiction of a male figure with upraised left arm.

Fig. 8. Öcsöd-Kováshalom. Fragment of a flat lid with incised geometric decoration.

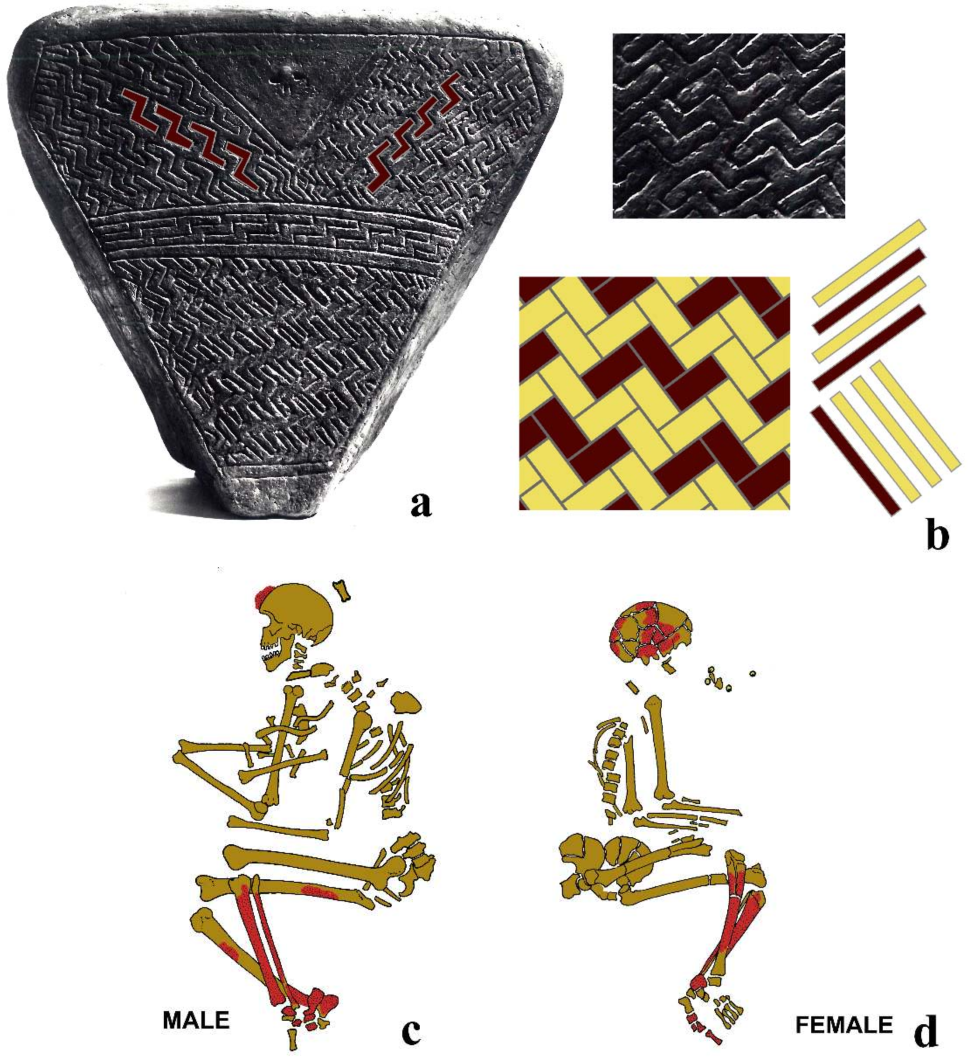

Fig. 9. a - The so-called Kökénydomb altar with a stylised human face in the upper part of its triangular, meander-decorated front side. b - Detail of the geometric decoration of the Kökénydomb altar and its plaited mat imitation. c - Öcsöd-Kováshalom. Male burial (Grave 22) crouched on the right side. d. Female burial (Grave 20) crouched on the left side.

Fig. 10. Öcsöd-Kováshalom. Conical lid with a handle decorated with four animal heads, of which three have an incised sign on the neck; the lower part is covered with a geometric design.

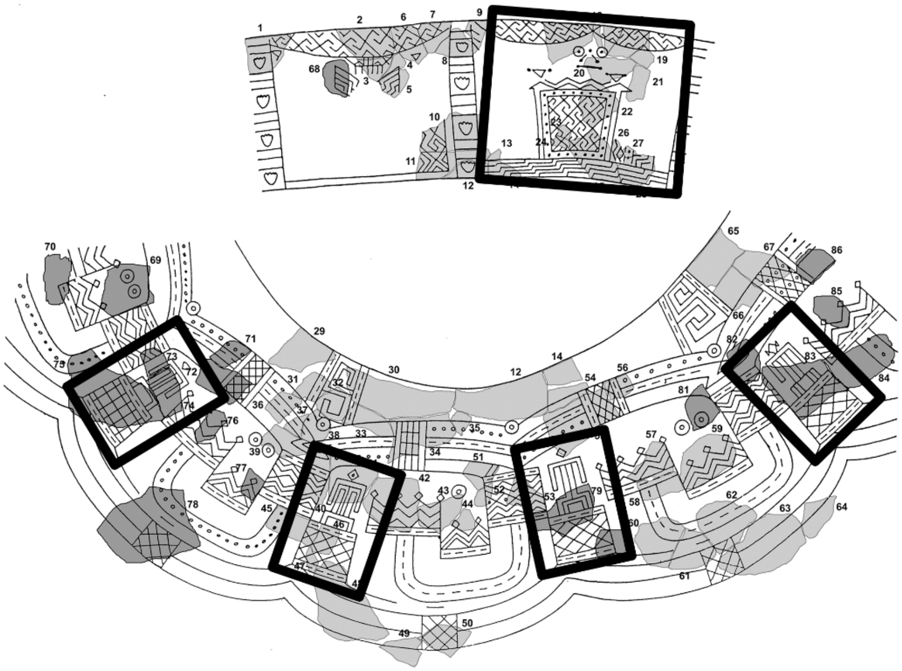

Fig. 11. Öcsöd-Kováshalom. Roll-out of the design on the body of a large face pot from the end of the Tisza I period

A LATE NEOLITHIC SETTLEMENT FROM VLADIMIRESCU (ARAD COUNTY, ROMANIA)

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Abstract: Recent field surveys have led to the discovery of an large archaeological site located near the Vladimirescu commune (Arad County, Romania). The discovered materials can be attributed to the Late Neolithic Period, more precisely to the C phase of the Vinča culture and to the Tisza Culture. Also, the analysis of satellite imagery has permitted us to observe the presence of what seems to be a massive fort, having at least two defensive ditches.
Keywords: *Late Neolithic, Tisza Culture (classical period/II), Vinča culture (C Phase), fortification, field survey*

1. INTRODUCTION

The Vladimirescu commune (*Öthalom*-Hungarian, *Glogowatz*-German) is located in Arad County, about 2 km southeast of the city of Arad, close to the area in which the Mureș river exists the mountainous area entering the Western Plains of Romania, part of the larger Pannonian Basin.

From the point of view of the archaeological discoveries, this commune is known in the specialized bibliography for the rich materials attributed to all historical periods except the Paleolithic and the Bronze Age[4]. The vicinity of the Mureș river which represented throughout history an important highway connecting the Transylvanian and Pannonian basins, the presence of terraces that offered protection from the spring floods, not to forget the rich soils, created favorable conditions for human habitation.

To the repertoire of the published discoveries we shall add in this study a new one. It was discovered in the year 2012 following field researches conducted by V. Sava, Fl.

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[4] See for example RAJ ARAD 1999; PĂDUREAN 1985.

Mărginean and G. P. Hurezan from the Arad County Museum[5]. More surveys were made by authors of these rows in 2005 by Eugen Pădurean in January, in March 2012 by Eugen Pădurean and Alexandru Berzovan and in 2016 by Alexandru Berzovan and Octavian Rogozea during late September. In this context, besides the Tisza Culture materials previously found, were discovered also artifacts attributed to the C phase of the Vinča Culture as well as a few Late Iron Age Celtic potshards. From all of the discoveries here we have chosen to treat in this study the materials attributed to the Late Neolithic Period; the Celtic pottery will be presented on another occasion.

2. DESCRIPTION OF THE SITE

The site is located about 1.3 km north of the Vladimirescu – Ghioroc railroad, 1.28 km east of the Vladimirescu-Horea road, 3.11 km south-west of the Roman Catholic church of Horia, 3.83 km northwest of the Eastern Orthodox Church of Vladimirescu and at 5.71 km southeast of the Roman Catholic church of Livada (Fig. 1; Pl. 1/1-2). It has the following geographical coordinates: 46° 11' 7.34" N, respectively 21° 26' 15.85" E (GPS); 225215.38880-X 526790.96639-Y (Stereo 70).

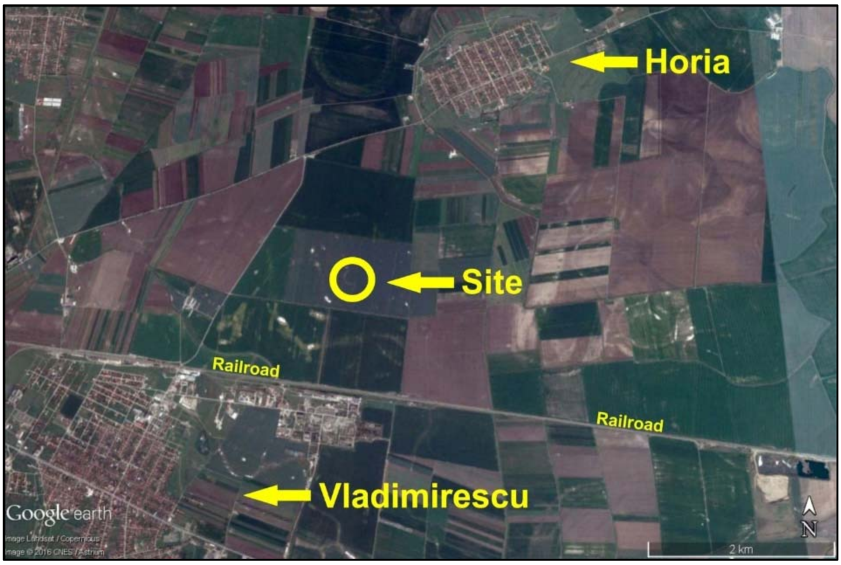

Fig. 1. The geographical setting of the archaeological site
(Google Earth satellite imagery).

From a geographical point of view, the site occupies a terrace located 5.65 km north of the current course of the Mureș River. The land improvement works started in the

[5] SAVA 2015: 121.

seventeenth century and continued until the end of the 20th century radically changed the landscape. Regressive analysis of historic and topographic maps provides the picture of this evolution. The first Habsburg topographic survey reveals the existence of a small forest that existed at the time on the site. On this map is also marked a small meander west of the site (Figure 2.a). On the second Austrian topographic survey, are visible some irrigation ditches, the plotting of the land, but also a large fossil meander located south of the site (Figure 2.b).

The careful investigation of satellite imagery, obtained with the help of Google Earth, confirms the existence to the south and west of the site of the meander marked on historical maps (Figure 1). The last map available for our perimeter, drawn up in 1975, shows that at the time the map was made the ditch affecting the eastern part of the site already existed (Figure 2.c).

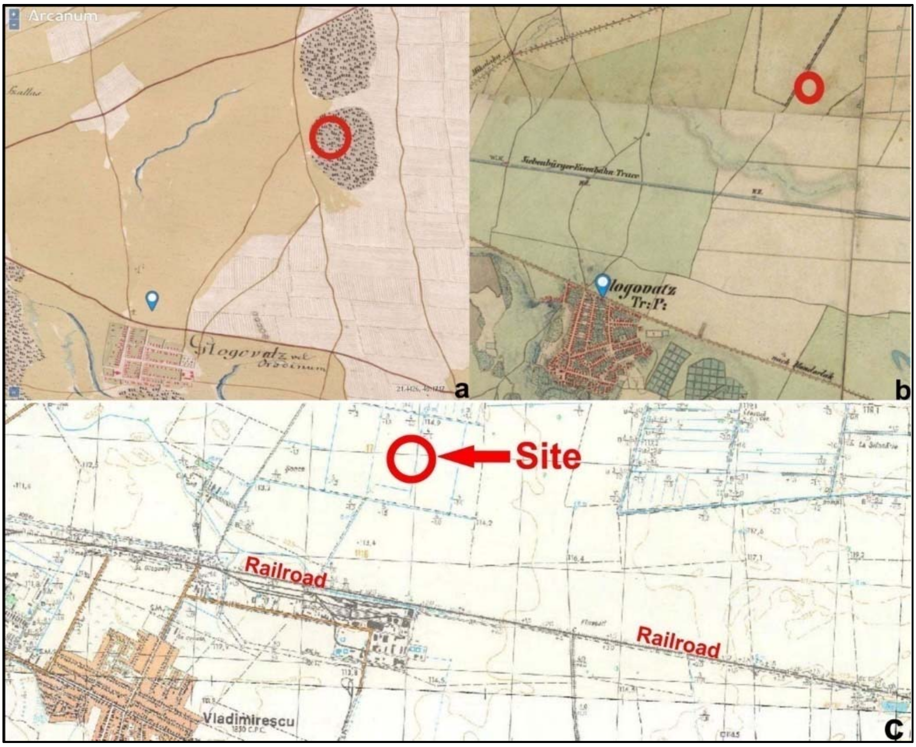

Fig. 2. a - The first Habsburgic topographical survey (1736-1787); b - The second Austrian topographic survey (1806-1869); c - Topographic map of Romania (1975).

3. ARCHAEOLOGICAL MATERIALS

Most of the archaeological materials, including ceramic fragments, bone tools, perforated shells, architectural fragments (wall fragments, floor fragments), hearth fragment, and the lithic assemblages were found in the irrigation ditch that traverses the site over a length of 321 m in the SW-NW direction. In the eastern profile of this ditch, at 46° 11' 6.48" N, respectively 21° 26' 17.85" E (GPS) and 225257.05732-X, 526762.51218-Y (Stereo 70), at a depth of approx. 35-40 cm from the modern ground, there is visible a large burst of adobe (vitrified in the case of fragments) disturbed by wild animal burrows.

By far the most numerous artifacts are represented by pottery. Due to its morphological features, it can be attributed to the Late Neolithic Period, more precisely to the Tisza and Vinča cultures.

3.1. Vinča pottery

The Vinča pottery can be divided into three separate categories: fine, semi fine and coarse. The fine pottery is characterized by its black or gray colors. Fine sand was used for degreasing. The surfaces of the pots were polished, sometimes having a metallic gloss. The semi fine pottery is characterized by polished surfaces and the usage of fine sand mixed with broken shards as a degreaser. The colors of this category include, in addition to black and gray, some colors specific to an oxidizing burning. On the other hand, the course pottery presents rough surfaces that completely lack any polish, and a fabric that uses as a degreaser broken shards; its colors indicate oxidizing burning.

The encountered forms are the dish with narrow mouth, arched walls and splayed rim (Pl. 2/1-4; Pl. 3/1; Pl. 7/4,6), the so-called „fish platter" (Pl. 7/7), the dish with arched walls and large mouth (Pl. 7/1-2), the short dish with large mouth and profiled walls (Pl. 2/7), the tronconic middle dish, with large mouth and short walls (Pl. 7/3), the deep tronconic dish with large mouth and curbed walls (Pl. 2/6; Pl. 2-3), the pot with splayed rim (Pl. 7/5), vessels with tall, ring-shaped base (Pl. 2/5).

The ornaments are represented by different fractured incisions (Pl. 2/6; Pl. 3/2-4); Pl. 2/2-3; Pl. 8/3-4, 6, 8), wide frills organized „in rafters" (Pl. 3/5; Pl. 8/1-2), fine frills on the inside of the rim (Pl. 7/6) and vertical frills (Pl. 3/6). In the case of a dish the frills are found on the inside as well as on the outside of the rim, making it to look as in a torsade. On the same vessel, on its inner surface, there is another decoration obtained by polishing (Pl. 3/7).

Plastic molded elements are often associated with other ornamental techniques, thus overcoming their strictly functional role and becoming part of the decoration theme. We observe the presence of long knobs, grooved and arranged horizontally on the pots side (Pl. 3/6-7), long knobs on the rim of the vessel (Pl. 3/7), sharp handles (Pl. 4/1,3) and rectangular handles with an extension on their top (Pl. 4/2), disposed perpendicularly on the pots rim, associated with various types and combinations of incisions.

Some types of handles and knobs appear simple, without any kind of other decoration. Thus we can find semicircular handles disposed perpendicularly on the vessel (Pl. 8/7), hemispheric, perforated knobs, arranged under the rim (Pl. 8/9), hemispheric knobs disposed in groups of three (Pl. 9/2), sometimes in a much simpler disposition (Pl. 9/1), long knobs arranged horizontally (Pl. 9/4-5), semicircular handles arranged horizontally on the vessel (Pl. 9/3,7) and elongated knobs disposed horizontally under the rim (Pl. 9/6). On the Vinča pottery, more precisely on the bottom of the vessels, we can find so-called „symbols" made either through incision in the crude fabric (Pl. 8/5) or trough polishing (Pl. 3/1). Out of a small, fine fragment, trough bidirectional perforation, a token was made (Pl. 9/8).

3.2. Tisza pottery

The Tisza pottery, like the vincian one described earlier, can be divided into three types: fine, semi fine and coarse. In terms of ceramic technology there are no major differences. Fine pottery is degreased with fine sand, while burning is generally reductive. The interior surface is polished. In some cases, the exterior surfaces, while richly decorated, is lacking any luster, a fact that is due to the complex decoration that covers the entire surface. The specific shapes are the dish in the shape of „pyramid trunk" (Pl. 4/5; Pl. 5/1,3), the dishes with a wide mouth (Pl. 10/2) and the globular vessels with flared rim (Pl. 5/3,7; Pl. 10/1,3,10).

The decorations found on this type of ceramics are made up of incisions and dots that completely cover the surfaces (Pl. 4/ 5-6, 7, 9; Pl. 5/7) and various motifs consisting of broken incisions (cf. Pl. 4/8; Pl. 5/3, 5, 8; Pl. 10/4-9). The incised motifs can sometimes be complemented by painting with a red pigment, applied in the space between the incisions (Pl. 4/4; Pl. 5/1, 4; Pl. 5/2). The red painting appears also individually. On a semi fine orange-colored ceramic fragment with polished surfaces, the broken incisions were painted red (Pl. 5/6). It should be noted that this painted decor seems to imitate incised decors from broken lines. From the repertoire of the plastic modeling ornaments, we mention the alveoli arranged on a slightly flared rim. By plastic modeling, semicircular handles were placed immediately below the rim (Pl. 10/10) or on the vessel wall (Pl. 10/12) and a circular knob, flattened and decorated with incisions (Pl. 10/11).

A ceramic fragment molded from a coarse fabric retains traces of barbot on the outer surface (Pl. 6/1). The lack of a clear context prevents us from attributing this fragment to a certain culture. From the structure of a fallen house were recovered numerous shards of burned adobe, floor fragments and the remains of a hearth (Pl. 6/2).

3.3. Other types of materials

In addition to the pottery, numerous lithic materials were found, carved out of the so-called "brown flint of Banat", namely fragments and flakes of debitage (Pl. 6/5-8). We mention the existence of an quartzite axe fragment with a perforation (Pl. 6/4).

A fragment of animal horn, with visible traces of processing, was most probably used as a wand (Pl. 6/3). In addition to these artifacts, numerous perforated shells have been discovered (Pl. 6/9-10). We speculate they were part of a necklace.

4. THE FORTIFICATION

An especially important feature of this site is the fortification, clearly visible on satellite images. Of circular shape, it is composed of two enclosures. The interior one has a diameter of approx. 200 m and an area of approximately 3.26 ha. The outer enclosure has a diameter of 328 m and defines a perimeter with the area of 9,1 ha. Also, based on the measurements made on satellite images, the distance between the two ditches is approx. 60-80 m (Fig. 3).

Fig. 3. The Late Neolithic site and fortification from Vladimirescu (Google Earth satellite image).

Such kinds of forts are well known in Late Neolithic sites of Western Romania. Circular forts such were found at: Chișoda-*Livezi*[6], Halmeu-*Vamă*[7], Diniaș-*5*[8], Foeni-

[6] DRAȘOVEAN 1991: 59; LAZAROVICI, MAXIM 1993: 43.

[7] VIRAG 2015: 60-62.

[8] ROGOZEA 2016: 14.

Cimitirul Ortodox[9], Iclod-*Pământul Vladicii*[10], Liubcova-*Ornița*[11], Parta-*Tell II*[12], Țaga[13], Turdaș[14], Uivar-*Gomila*[15], etc.

From a cultural and chronological point of view, some of the materials presented here belong to the Tisza culture (classical phase II), while another part belongs to the C phase of the Vinča culture.

Tisza habitations with remains similar to the ones from Vladimirescu are known from: Hodoni-*Pocioroane*[16], Lipova-*Hodaie*[17], Chesinț-*Ocob*[18], Vinga-*Izvor*[19], Cenad[20], Cherestur-*1*[21], possibly Dudeștii Vechi-*13/La Stuf*[22] and Măderat-*La Hodaie*[23].

The Vinča C materials are similar to other finds in this area, having numerous analogies at Aradul Nou-*Bufniț*[24], Carani-*5*[25], Chișoda Veche-*Livezi*[26], Cornești-*Iugosloveni și Ferma Reiter*[27], Duleu-*Octosu*[28], Foeni-*Cimitirul Ortodox*[29], Folea-*La Bușí*[30],

[9] LAZAROVICI, LAZAROVICI 2007: 30.

[10] LAZAROVICI 1991h: 7; LAZAROVICI 2014: 28-30; LAZAROVICI, MAXIM 2014: 32-34.

[11] POPESCU 1969: 537.

[12] LAZAROVICI *et al.* 2001: 197-203; LAZAROVICI, LAZAROVICI 2006: 193, 364-370, 633-662.

[13] LAZAROVICI 2014: 36; LAZAROVICI, MAXIM 2014: 26-30.

[14] LUCA, SUCIU 2014: 7-24.

[15] SCHIER 2008: 56.

[16] MOGA 1969: 295; DRAȘOVEAN 1991: 65; DRAȘOVEAN 1991a: 209; DRAȘOVEAN 2009: 262; DRAȘOVEAN *et al.* 1996: 24-33; DRAȘOVEAN 1991b: 73-74, fig. 2-4; LAZAROVICI 1976: 214, pl. 13/1-2, 4-7; LAZAROVICI 1971: 27; LAZAROVICI 1979: 157; LAZAROVICI 1993: 259; LAZAROVICI, LAZAROVICI 2006: 596-597, p. 599; SAVA 2015: 124.

[17] LUCA 1986: 4-53, fig. 1-6; SAVA 2015: 126, pl. 84.

[18] SAVA 2015: 124, pl. 83; ROGOZEA *et al.* 2016: 9-10, pl. 4, pl. 5, pl. 6/1-3.

[19] LAZAROVICI 1979: 208, point 94; DRAȘOVEAN *et al.* 1996: 34; SAVA 2015: 182.

[20] DRAȘOVEAN 1991: 65; DRAȘOVEAN 1991a: 209; DRAȘOVEAN 1999: 262; DRAȘOVEAN *et al.* 1996: 34; LAZAROVICI 1971: 12, pl. XI; LAZAROVICI 1976: 214, pl. 13/22-23, 27-31, 34, 36, 38, 41; LAZAROVICI 1979: 156; LAZAROVICI, LAZAROVICI 2006: 596; RUSU 1971: 79; SAVA 2015: 124.

[21] ROGOZEA 2016: 12-13, fig. 1/8-11.

[22] CIOCANI, JOSZA 2015: 21.

[23] ROGOZEA *et al.* 2016: 10-12, pl. 6/4-7.

[24] SAVA, MATEI 2013: 91-92, pl. 3/2.

[25] ROGOZEA 2016: 11-12, fig. 1/1–7.

[26] DRAȘOVEAN 1996: 109, nr. cat. 1, pl. LXXX-XCII.

[27] LAZAROVICI 1991: 74-77, fig. 22; DRAȘOVEAN 1996: 109.

[28] LAZAROVICI 1979: 109; DRAȘOVEAN 1996: 109; BOZU 2003, 180.

[29] LAZAROVICI 1979: 210; LAZAROVICI 1991g: 77-78; DRAȘOVEAN 1996: 110.

[30] DRAȘOVEAN 1996: 110.

Hodoni-*Pocioroane*[31], Homojdia-*La Ivănațu/Dealul Ivănațului*[32], Jabăr-*Cotună*[33], Jupa-*Sud*[34], Honorici-*Cremeniște*[35], Liubcova-*Ornița*[36], Lugoj-*La poalele Dealului Viilor*[37], Macedonia[38], Moldova Veche-*Sat*[39], Parța-*Tell I*[40], Parța-*Tell II*[41], Păltiniș-*La Topliță*[42], Reșița-*Triaj*[43], Ruginosu-*Gruniul cu Cremene*[44], Sânandrei-*Ocsenplatz*[45], Sânmartinul Sârbesc-*9/Grădiște*[46], Sânmihaiu Român-*1/La Deal*, Sălbăgelul Vechi-S*eliște*[47], Șag-*Gostat*[48], Uivar-*Gomilă*[49], Unip-*La Vișini*[50], Zorlențu Mare-*Codru*, *Dealul Giurii*, *Icrelişte*, *Negruşa*, *Valea Sacă*, *Sălaşul lui Momac*, *Obârşia Alunişului*[51].

The location of the Vladimirescu Late Neolithic fortified settlement on one of the main access routes in Transylvania, namely at the exit of the Mureş Valley from the mountainous area, suggests that it had the potential to control the commercial exchanges both ways. At the same time, the location on this particular route exposed the community from here to the various population movements that took place on the Mureş Valley.

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31 MOGA, RADU 1977: 231-239; DRAŞOVEAN 1991: 210, fig. 2/1; DRAŞOVEAN *et al.* 1996: 15-20.

32 LAZAROVICI, STRATAN 1973: 455-464, fig. 4-7; DRAŞOVEAN 1996: 31, 110.

33 MOROZ-POP 1983a: 473-474; DRAŞOVEAN 1991: 60; DRAŞOVEAN 1996: 31, 111.

34 LAZAROVICI 1991c: 84-85; DRAŞOVEAN 1996: 111; LUCA 1993: 27-34.

35 DRAŞOVEAN 1991c: 81, fig. 24; DRAŞOVEAN 1996: 111.

36 COMŞA 1969: 11-44; DRAŞOVEAN 1996: 32, 111; LUCA 1998: 44-51, fig. 22, 23, 24/1-2, 25, 26, 27/15, 28-35.

37 DRAŞOVEAN 1991: 60; DRAŞOVEAN 1996: 111-112.

38 DRAŞOVEAN 1991: 60; DRAŞOVEAN 1996: 112.

39 DRAŞOVEAN 1996: 112.

40 DRAŞOVEAN 1996: 32, 112-113, pl. CIII.

41 LAZAROVICI 1991f: 67-70, fig. 18-20; DRAŞOVEAN 1996: 37, 112, pl. XCVII-CII; LAZAROVICI-LAZAROVICI 2006: 215, fig. IIIb.8.

42 PETROVSZKY *et al.* 1979: 433; LAZAROVICI 1991d: 84; DRAŞOVEAN 1996: 113.

43 LAZAROVICI 1979: 122, pl. XIX/C 35; DRAŞOVEAN 1996: 113.

44 LAZAROVICI 1991e: 81, 83-84; DRAŞOVEAN 1996: 113.

45 DRAŞOVEAN 1996: 113-114, pl. LXIV-LXXIX.

46 ROGOZEA 2015: 128-129, pl. IV/1a-1b.

47 MOROZ-POP 1983: 53-57; LAZAROVICI 1991b: 78-80, fig. 23; DRAŞOVEAN 1996: 113, pl. CVI.

48 LAZAROVICI 1991a: 77; DRAŞOVEAN 1996: 114, pl. CV/1, 3, 5, 6.

49 SCHIER, DRAŞOVEAN 2004: 145-230; SCHIER 2006: 325-339; SCHIER 2008: 54-67; SCHIER 2014: 22, 29; DAMMERS 2009: 235-258.

50 LAZAROVICI *et al.* 1981: 13-20; DRAŞOVEAN 1996: 114.

51 COMŞA, RĂUŢ 1969: 3-15; LAZAROVICI 1979: 209-210; DRAŞOVEAN 1991: 209; DRAŞOVEAN 1996: 114, nr. cat. 24, pl. XXVIII-XXXII, CVII-CXI; LAZAROVICI, LAZAROVICI 2006: 158-160.

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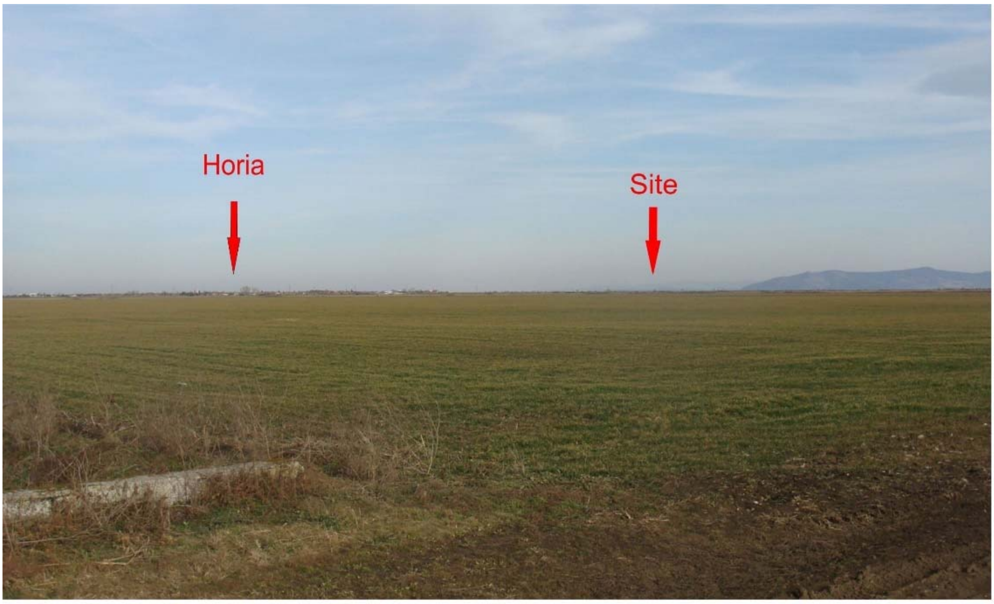
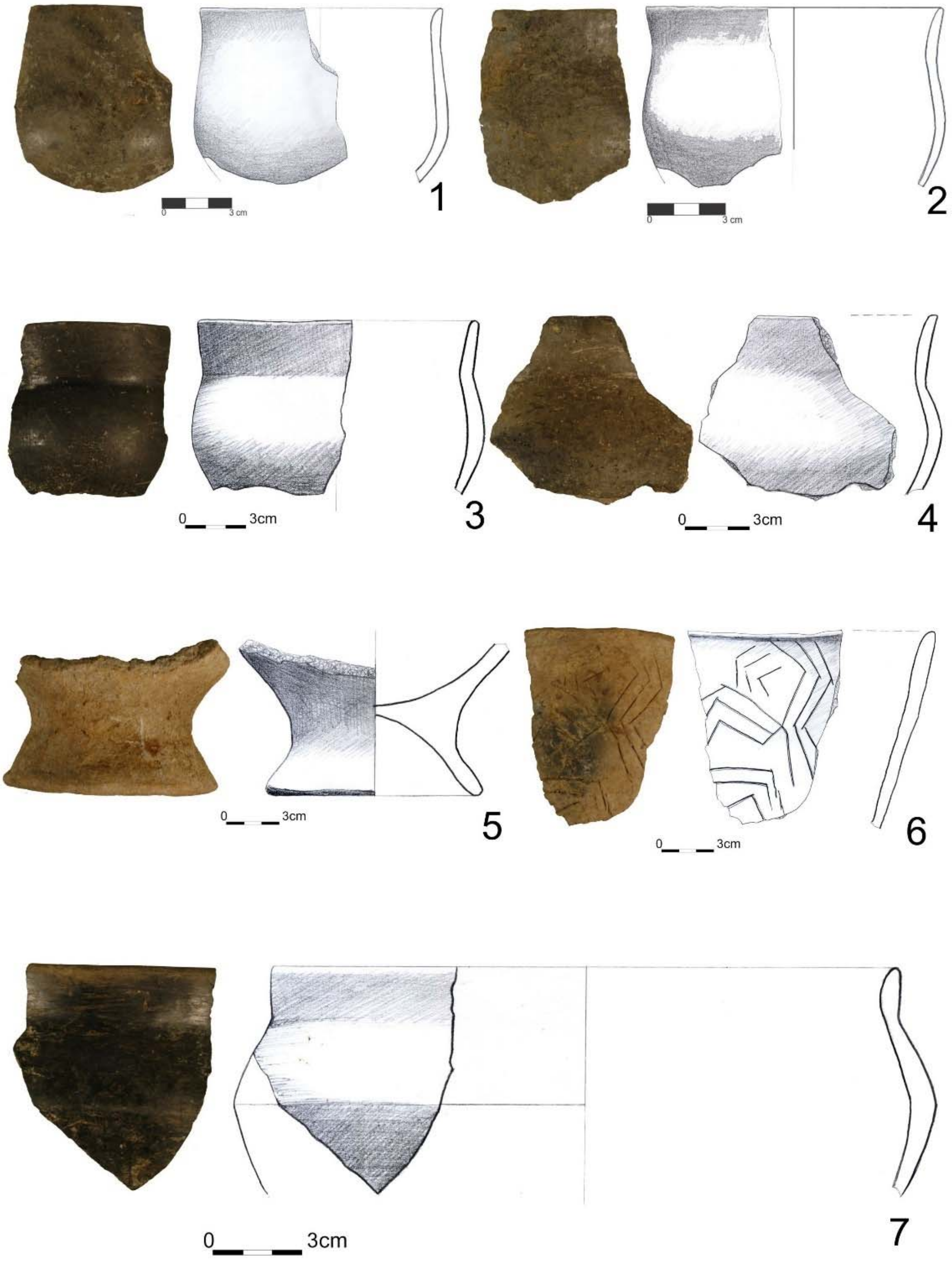
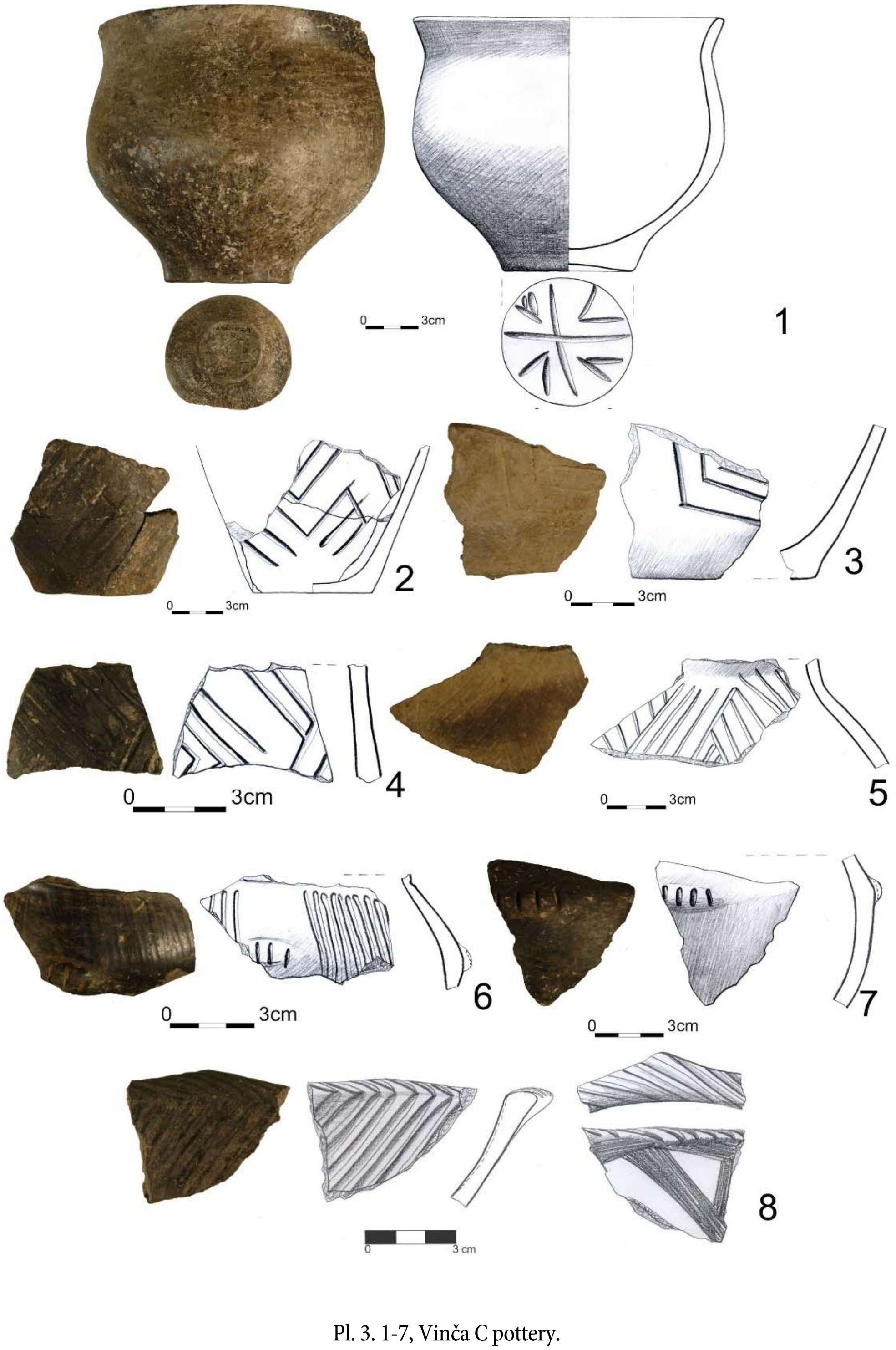


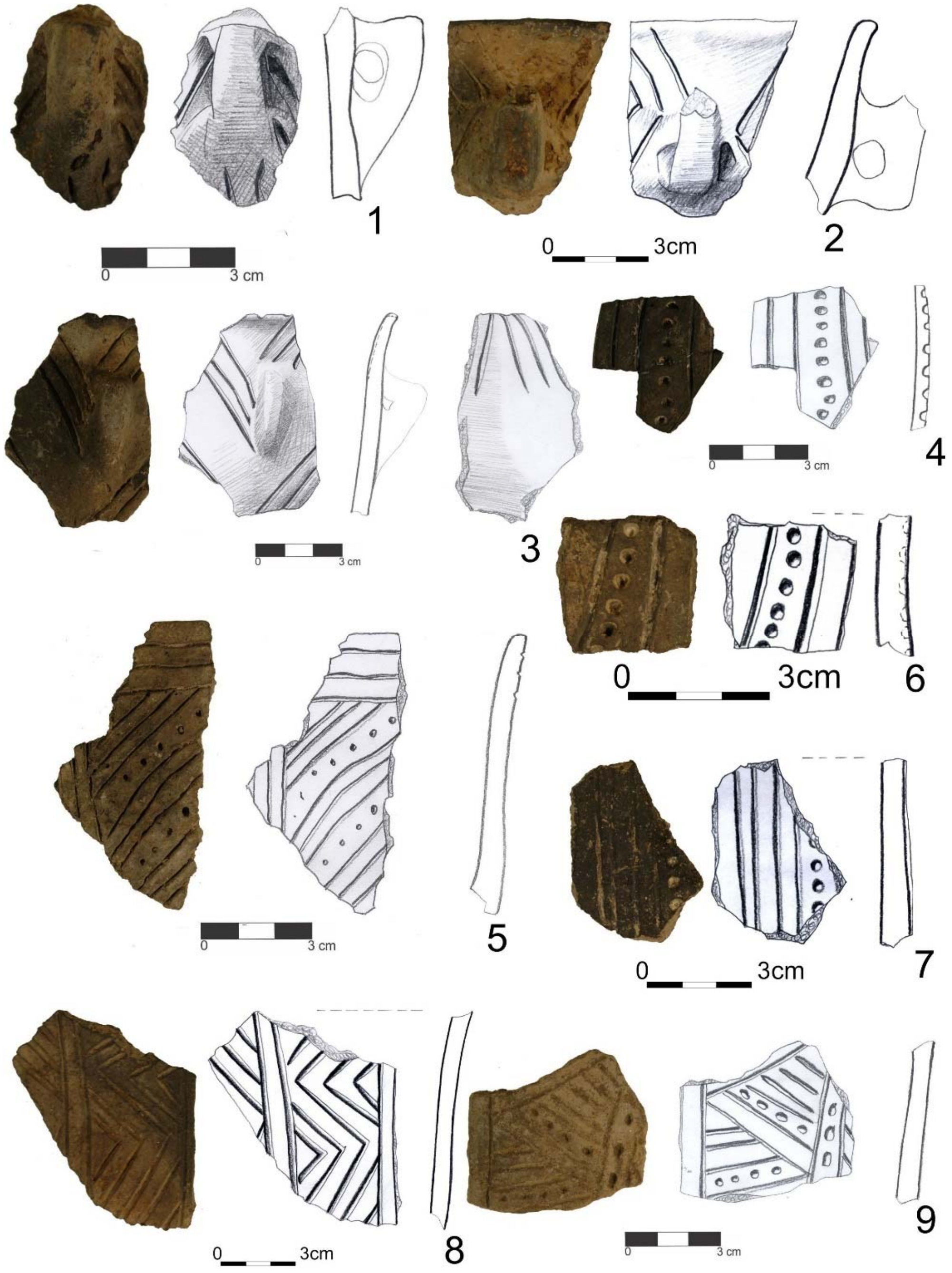
Pl. 1. 1, the site, view towards south-west (towards Vladimirescu);
2, the site, view towards north-east (towards Horia).



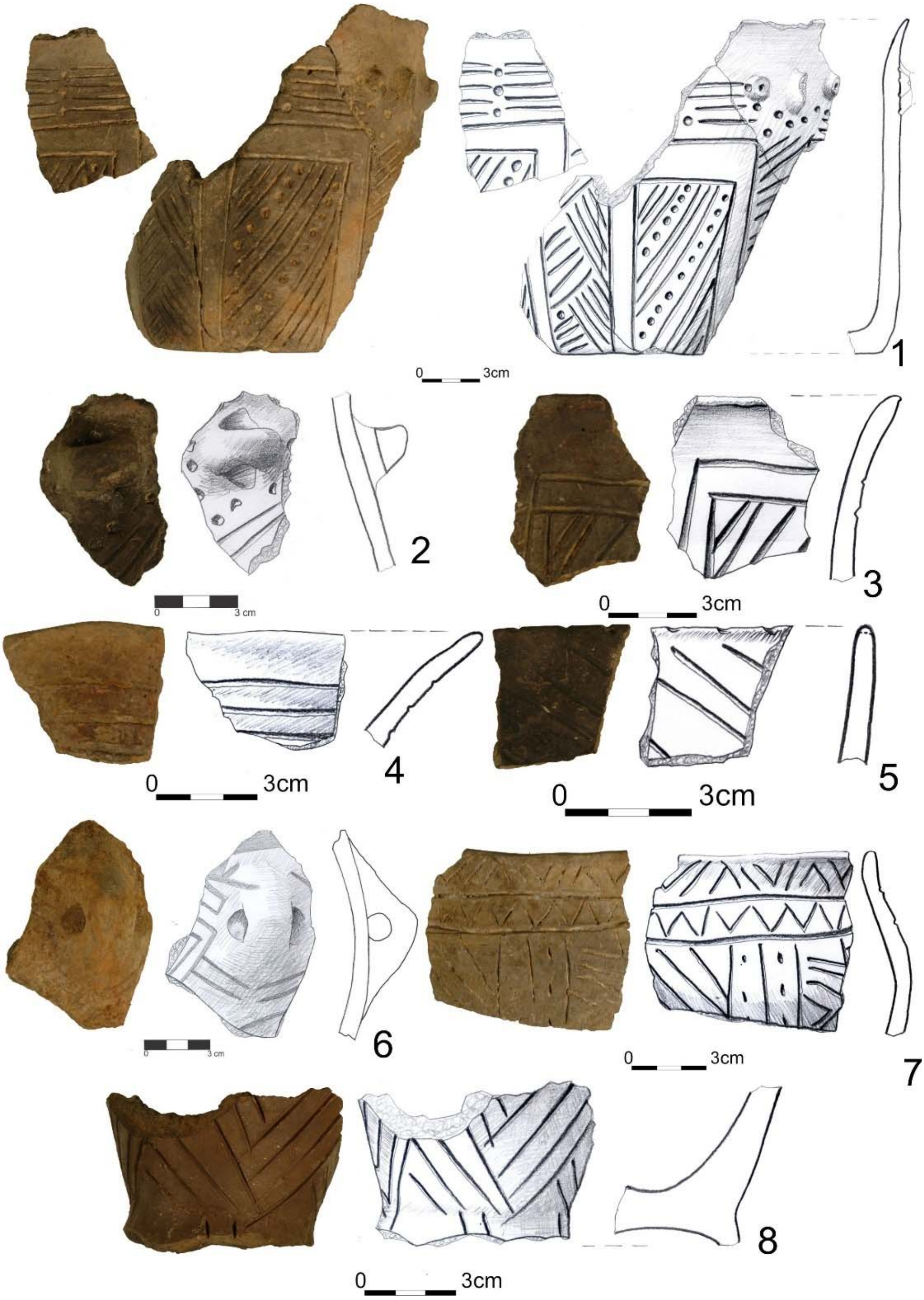
Pl. 2. 1-7, Vinča C pottery.



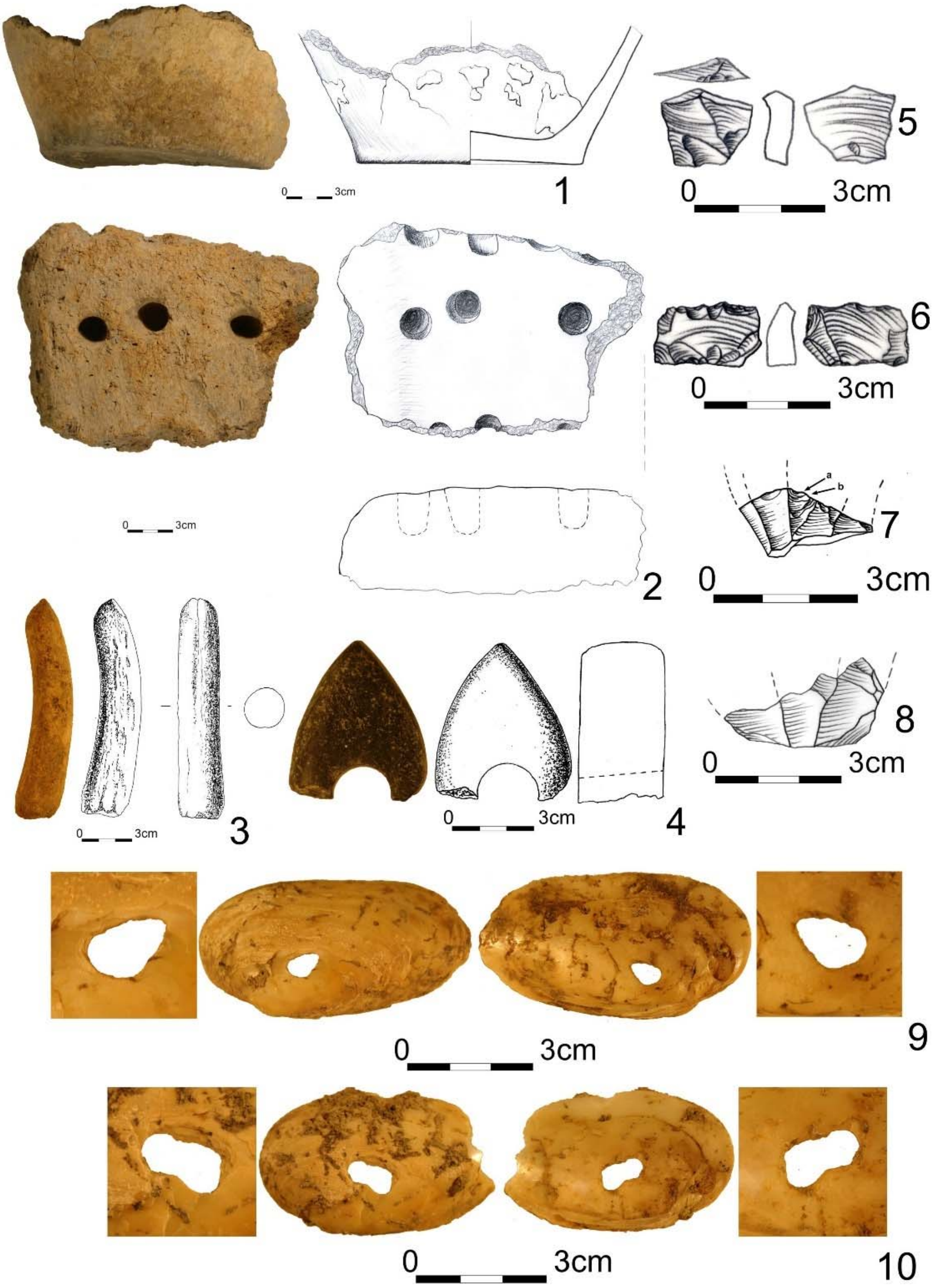
Pl. 3. 1-7, Vinča C pottery.



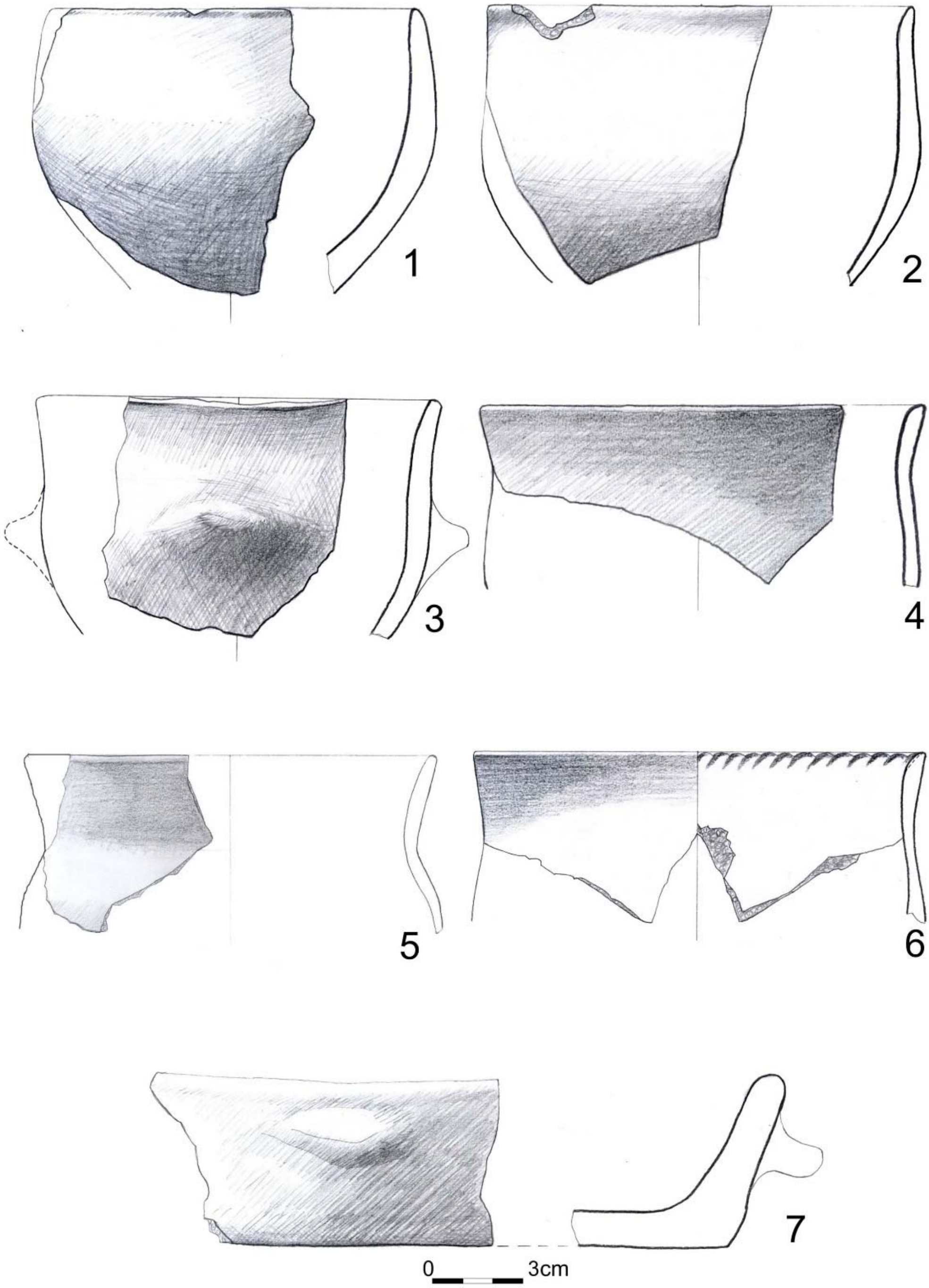
Pl. 4. 1-3, Vinča C pottery; 4-9, Tisza pottery.



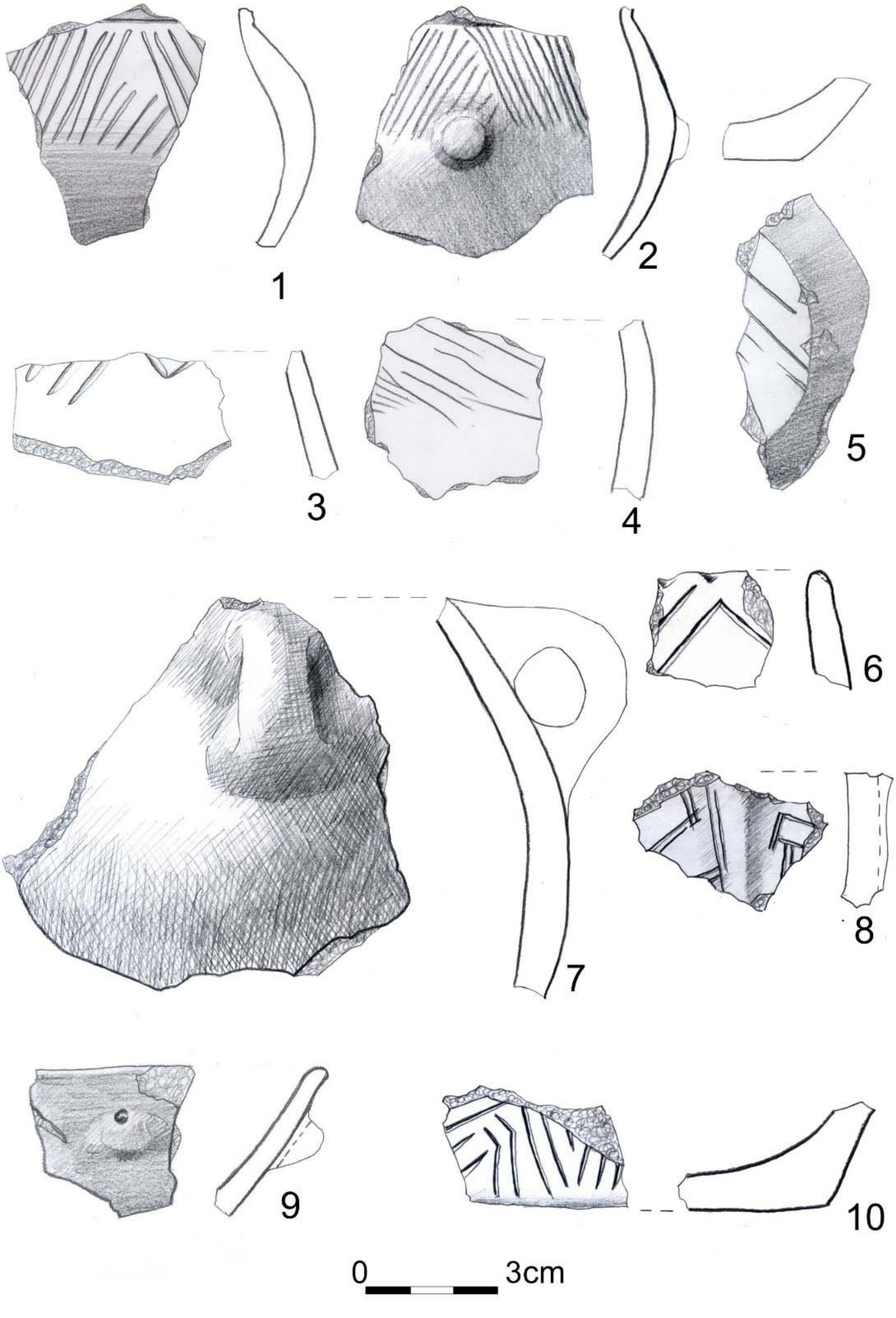
Pl. 5. 1-8, Tisza pottery.



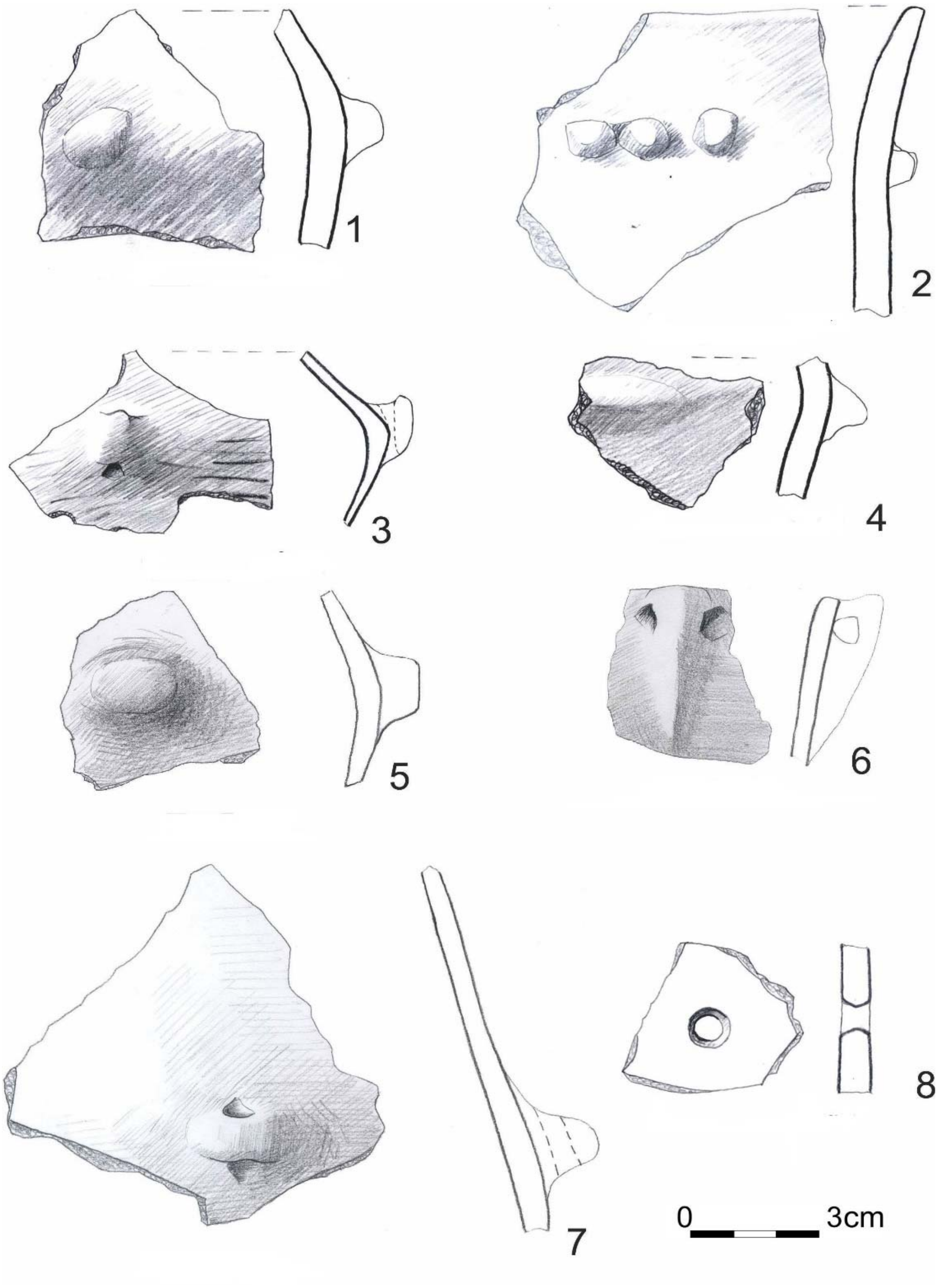
Pl. 6. 1, potshard with barbote; 2, hearth fragment; 3, processed horn; 4, stone axe;
5-8, lithic assemblage; 9-10, perforated shells.



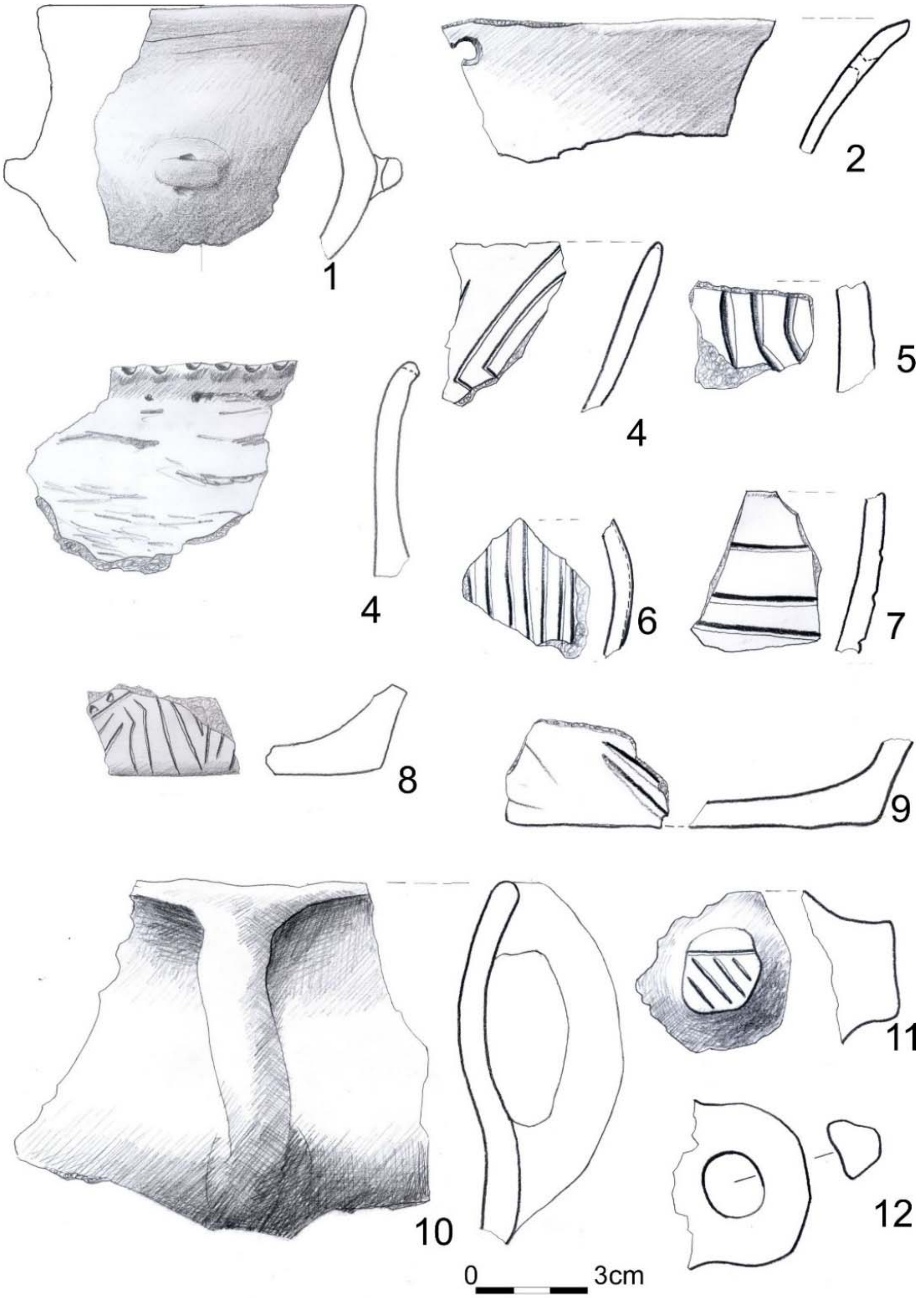
Pl. 7. 1-7, Vinča C pottery.



Pl. 8. 1-10, Vinča C pottery.



Pl. 9. 1-8, Vinča C pottery.



Pl. 10. 1-12, Tisza pottery.

ILLUSTRATING PERFORMANCE: REALISM *VERSUS* PRETENCE IN NEOLITHIC ICONOGRAPHY

Christina MARANGOU[1]

Abstract: "Standard" examples of Neolithic three-dimensional, clay images are generally isolated and static, independently of the posture in which they are depicted. However, some composite figures are uncommon, since they may be represented as if permanently "acting" or "functioning", including even in "unnatural" occurrences. Such unusual representations could then be considered either as images of real, observed individuals in a particular condition or performing an act, or as signifiers of the communal recollection of an event or of the narration of a belief. Either reality or fiction, a specific true or mythical scene would have been memorized and materialized, fixed permanently in image, as it would have appeared during tangible or invented performance. The paper endeavours to present a number of such examples and seek possible interpretative directions of their meanings and functions.
Keywords: *Neolithic, Greece, anthropomorphic and zoomorphic figurines, performance, symbolism, ritual*

INTRODUCTION

"Standard" examples of Neolithic figurative art are generally isolated and static, independently of the posture in which they are represented. However, some figures are uncommon or even unnatural, as they constitute complex themes, mainly combining animate beings with other beings or/and with inanimate objects, whereas such elements are usually represented as distinct, independent units. These occurrences presumably correspond to either a specific instant in a sequence of events or acts, or a more or less lasting, unusual situation. This event or situation may have really occurred, or have formed part of a seemingly imaginary story. In both lines of reasoning, reality or fiction, a specific true or mythical scene would have been memorized and materialized, fixed permanently in image, as it would have appeared during tangible or invented performance. Such unusual representations could then be

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considered either as depictions of real, observed individuals in a particular condition or performing an act, or as signifiers of the communal recollection of an event or the narration of a belief, involving animate actors – had these events or beliefs a real and tangible origin, or were they referring to an Other World (ancestral, clannish, tribal, magical, shamanistic…), with cosmological or socio-political corollaries.

The present paper[2], based mainly on Neolithic[3] material from Northern Greece, endeavours to seek possible clues about symbolized action, represented in particular fixed attitudes and/or combinations of three-dimensional clay representations, thus impossible to change or to move separately[4]. Among such rare examples of represented "performance"[5], two general categories of complex or composite figures could be distinguished, illustrating seemingly natural[6], but also unnatural instants or situations ("scenes").

REALISM?

Some figures are indeed represented as in permanent relationship to (in inseparable and unchangeable combination with) objects or other figures[7]. Anthropomorphic figures are seemingly performing a task that could be considered as an everyday task[8], for example carrying or holding various objects, sometimes with attributes of a presumed status, such as seated on seats, or kneeling by a structure, bearing or not an object; they may be fixed into house interior models; micrographic house interiors have been modelled together with their equipment (oven, platforms, internal partitions etc.), but also with their occupants[9]; and some animal figurines are bearing a load on their back[10].

[2] It is a great pleasure to contribute to the present honorary volume for Magda Lazarovici.

[3] For chronology see ANDREOU *et al.* 2001. Abbreviations used in this paper: Early Neolithic: EN, Middle Neolithic: MN, Late Neolithic: LN, Final Neolithic: FN.

[4] On movable groups of figurines and other miniatures see MARANGOU 1996; MARANGOU in press b.

[5] «The execution or accomplishment of an action, operation, or process undertaken …something performed or done»: OXFORD ENGLISH DICTIONARY: 2160, «performance», nr. 1.

[6] On «actions» of prehistoric (Neolithic-Early Bronze Age) anthropomorphic figurines, either individually or in groups, see MARANGOU in press b.

[7] MARANGOU 1992: 165-166,170; MARANGOU 2013. At the other end are situated representations of isolated elements, such as body parts or "abbreviations": MARANGOU 1992: 166; MARANGOU 2013.

[8] HOURMOUZIADIS 1994 considered such representations as "genre art".

[9] House models modelled with internal or external features: GALLIS 1982 (Tsangli); KOUKOULI-CHRYSANTHAKI 2014: 189, figs. 9, 10; with humans modelled in one piece with houses: PASSEK 1949, fig. 68.1, 15-16; MOVSCHA 1988, fig. 15.4, 2. Movable figurines found inside house models are not considered here, as for example in the Tsangli house model, which enters in the category of houses with permanently fixed internal features, but the figurines found inside it are movable (GALLIS 1982).

[10] Zoomorphic stands, as well as figurines, may represent loaded animals: GIMBUTAS 1986, fig. 9.67 (Sitagroi); HOURMOUZIADIS 2002: 250, fig. 2 (Dispilio, Kastoria); MARANGOU 2004: 283, pl.

Anthropomorphic figures combined with objects, in particular seated on a seat[11] or kneeling on/by a structure, may be female[12], male[13], or asexual[14] (pl. 1). Seated males, relatively frequent in EN-MN Thessaly, may have their hands on their thighs, genitals or abdomen, while LN-FN males place their elbows on their knees and rest their face on their hands (the so-called "thinkers"), or else they bear an object or implement or tool on their shoulder[15]. It is usually presumed that females are represented working, while males on seats have necessarily some special status. If the seat on which figures are seated might suggest a social distinction, it was not restricted to males, as it has often been suggested, since female and even asexual figurines may be bearing a vessel, a loaf of bread (?), or an implement (for babies/infants see further) in their lap, while seated on a seat; they may also sometimes be kneeling or sitting on/by a structure while at the same time they are combined to an implement or vase[16]; the objects may be placed on their knees, back, hands or head[17]; possibly asexual figures may also be standing and carrying such an object, as in Thessaly[18].

111, nr. 432. Functional characteristics and symbolic qualities may be combined on the same object: MARANGOU, STERN 2009.

[11] LAZAROVICI, LAZAROVICI 2015: 11-17.

[12] GIMBUTAS 1982: 209, figs. 207-209; GIMBUTAS 1989b: 46, fig. 79 (Crnokalacka Bara). PAPATHANASOPOULOS 1996: 297, nr. 201-202 (Sitagroi); GALLIS, ORPHANIDIS 1996: 270, fig. 212 (Thessaly); MARANGOU 1997: 246-247.

[13] Seated figurines on integral seat from EN-MN Thessaly are predominantly males. See e.g. WACE, THOMPSON 1912: 126, fig. 75d-e. THEOCHARIS 1973, pl. 37; HOURMOUZIADIS 1994: 89-97, pls. 7-9; PAPATHANASOPOULOS 1996: 298, nr. 203; GALLIS, ORPHANIDIS 1996: 178, fig. 123; 180, fig. 125.

[14] See for example GIMBUTAS 1982: 210, fig. 212; GIMBUTAS 1986: 243, fig. 9.36 (17); GIMBUTAS 1989a: 198, fig. 7.48 (2), pl. 7.12 (2); GALLIS, ORPHANIDIS 1996: 185, fig. 130; 187, fig. 132 (possibly exceptional hermaphrodites); MARANGOU 1997: 246-247 and pls. 66a, 69a-e (Dimitra).

[15] GIMBUTAS 1982: 84, figs. 46-47 (Szegvár-Tüzköves); GALLIS, ORPHANIDIS 1996: 337, fig. 285 (male or asexual?); see also 340, fig. 288 (Thessaly). See LAZAROVICI 2005:150, fig. 11 for characteristic attributes, mainly on half-seated male examples (Cucuteni-Tripolye).

[16] VASITS 1936: 104, fig. 921: 497, 108, fig. 1252: 512 (Vinča); GIMBUTAS 1982: 122, fig. 91 (Vinča); 123, fig. 92 (Fafos).

[17] MICLEA, FLORESCU 1980, pl. 208 (Gumelnița); GIMBUTAS 1982: 123, fig. 94 (Bordjos); 193, figs. 191-192; HOURMOUZIADIS 1994, pl. 78; a «burden» on the back has been interpreted as "hairdo" (compare MARANGOU 1997: 247, with references); PAPATHANASOPOULOS 1996: 301, nr. 208 (EN, Prodromos); a limestone figure bearing an animal on its back has been interpreted as a human male (DIETRICH, SCHMIDT 2017 (Göbekli Tepe); MARANGOU 1997, nr. MK (3), pl. 66a, 69a-e (LN, Dimitra III); MARANGOU in press b.

[18] WACE, THOMPSON 1912: 120, fig. 69h-j (EN-MN Tsangli); ZERVOS 1962: 202, fig. 181 (Tsangli); HOURMOUZIADIS 1994: 148-153, pl. 78, 81-82 (EN-MN, Prodromos, Tzani), considered such representations as "genre art".

Figurines illustrating pregnant females[19] (pl. 2), as well as a few figures (in the Neolithic, scarcely in the Greek Chalcolithic) in a birth-giving (?) posture[20] and finally rare *kourotrophoi*[21], women holding infants or babies in their arms, may be considered as corresponding to the theme of represented "performance". As a matter of fact, a relatively small number of distinct figurines occurring in various periods and regions represent particular states or actions that could correspond to an expected process of events[22], showing stages in the process of the biological, reproductive cycle. Starting from the beginning, we might also consider male figures, in particular when with emphasis on their maleness[23], to which one may add clay or stone *phalloi*[24], as well as accentuated females[25]. The percentage of pregnant, birth-giving or nursing figurines is very small in comparison to the preponderant number of females, while male figures are in general relatively rare, but then, often clearly explicit. Examples depicting the process of the biological cycle have not been found in mutual association and we cannot argue with certainty that the series was necessarily meant as such; it remains also to be proven that the role of males in the reproductive process was completely understood. Yet it is worth noting that the themes existed and we cannot escape observing that they depicted phases of a credible, natural sequence, even if the figurines themselves were to be used or observed singly.

[19] GALLIS, ORPHANIDIS 1996: 295, nr. 238; PAPATHANASOPOULOS 1996: 295, nr. 195 (Vassilika). Clear representation of pregnancy is rare, see MARANGOU 1992, nr. 18, fig. 71a and nr. 4, fig. 72a. Sometimes it is rather obesity that is rendered (MARANGOU 1992: 174), including on males (e.g. MARANGOU 1997: 238, fig. 2; see also MARANGOU in press b, fig. 2). The number of pregnant females depends on the selected criteria: see also MATEESCU, VOINESCU 1982.

[20] HOURMOUZIADIS 1994: 325, nr. 360, M.5416 (Prodromos, MN); 331, nr. 396, M.5342 (Prodromos, EN); pl. 48 upper part (EN, Achilleio); PHELPS 2000: 195, fig. 4.28; 196,197, pl. 4.13 (b), nr. SF716 (AN, Servia). In some cases it has been suggested that a new-born is represented during birth GIMBUTAS 1982: 164, fig. 156-157; GIMBUTAS 1986, 181 τύπος 5, 196 fig. 7.46/1 (Achilleio IIa); GIMBUTAS 1989a: 106, figs. 174-175 (Achilleio II and Medvednjak); GALLIS, ORPHANIDIS 1996: 198, nr. 143; The identification of the famous female giving birth on a seat, flanked by felines, from Çatalhöyük (MELLAART 1967: 67-68) has been contested by HODDER 2006: 218.

[21] Among others, see: ZERVOS 1963: 305, fig. 395; VELENI *et al.* 2017: 209, fig. 74 (LN). If in early periods the accent was particularly put on sexual features of both sexes, in the LN pregnancy, although relatively rare, was preferred.

[22] Some aspects were included in a paper presented at the Annual Meeting of the European Association of Archaeologists in Malta (2008), with the title "Functioning images in Neolithic Greece: Reality or Fiction?", in the session « Narrative, Memory and Cosmology: Figurative Art and Performance in the Prehistoric Mediterranean », organized by Malone, C. and Stoddard, S.. See also MARANGOU 2009 and MARANGOU in press b.

[23] E.g. ZERVOS 1963: 354-355, figs. 501-502; MARANGOU 1997, nr. MK 10, pl. 64d (Dimitra Ib).

[24] E.g. THEOCHARIS 1973, fig. 211; GIMBUTAS 1982: 217, figs. 166-168; HOURMOUZIADIS 1994, pl. 2; GALLIS, ORPHANIDIS 1996: 407, nr. 356; *CUCUTENI* 1997: 148, figs. 116-117, 120-121.

[25] E.g. ZERVOS 1962: 166-167,179, figs. 104-105,130.

If real activities or situations may well be illustrated, such as modelling vases, carrying burdens, preparing food, giving birth, or nursing, it cannot be excluded that a similar appearance might constitute a reference to symbolic happenings. In particular, pregnancy, birth-giving or motherhood represented could have had some didactic purpose for girls or even an apotropaic objective, in particular against the risks of birth-giving, both for mothers and new-borns[26]. In this connection, if the meaning behind such representations seems plausible or even credible, nevertheless, in some instances, dating in particular from the Late Neolithic, the apparent last use of some pregnant figurines is at least surprising. If broken/fragmented figures are a constant characteristic in the Neolithic[27], in exceptional cases, fragmentation goes beyond breaking off just members or heads: it is the destruction of the sign of pregnancy itself, as it would be difficult to believe that this happened fortuitously, and the meaning of such acts can only remain conjectural: happy completion of the process and destruction after the cycle of use of the figurine, as probably of a large number of other broken examples ? non-accomplished wish? magic?

Illustrating a different theme, a few figures are embracing other identical figures, possibly showing some blood, family or social relationship, such as two embracing identical, same-sex figures from Thessaly[28] (EN or MN), or exceptionally two figures of different sex, as in the LN[29], represented one close to the other. A few groups of multiple female figures could represent circular dances by women in LN-FN (Precucuteni II-III and Cucuteni)[30]. Combined double or triple[31] figures or groups of similar figures could indeed materialize a special relationship, such as twins, siblings, relatives, socially connected persons, participants in a communal event (e.g. dancing), a particular category of a

[26] MARANGOU 2009; MARANGOU in press b.

[27] CHAPMAN 2000; CHAPMAN, GAYDARSKA 2006. See also TALALAY 1987.

[28] A pair of identical asexual figures from EN or MN (;) Thessaly: PAPATHANASOPOULOS 1996: 314, nr. 234; GALLIS, ORPHANIDIS 1996: 205, nr. 148; or pairs of different figures from Vinča: e.g. VASITS 1936, pl. CXIX: 551.

[29] See the well-known pair from Gumelnița: GIMBUTAS 1982: 229, fig 243. Different sex pairs are often attested in late LN and FN, possibly also in the Early Bronze Age: MARANGOU 2009.

[30] MARINESCU-BÎLCU 1974a; MARINESCU-BÎLCU 1974b: 424, fig.13; MARINESCU-BILCU 1981, fig. 112; MANTU 1993: 131-132; *CUCUTENI* 1997: 123, fig. 51; 190, nr. 51 (Frumușica, 4450-4200 BC). On dance representations in early periods, see painted decoration on a vase from Otzaki, representing joined figures, in GIMBUTAS 1982: 184, fig. 142, as well as the female double or multiple figures of Pre-ceramic B from Syria, in MOLIST 1998: 81-87. See also other Neolithic bi-dimensional figures interpreted as dance representations in GARFINKEL 1998; GARFINKEL 2003; GARFINKEL 2010; LAZAROVICI, LAZAROVICI 2015: 34-37. A fragmentary female (WACE, THOMPSON 1912: 126, fig. 75b) might represent either a woman holding an object on her head, or a dancing figure. Musical instruments have indeed been found in Neolithic sites: HOURMOUZIADIS 2002: 261, fig. 10 (Dispilio); POMBERGER, KOTOVA, STADLER 2018.

[31] A fragmentary object with three protuberances from Sesklo (ZERVOS 1963: 335, fig. 451) and a "hand with fingers" from Pefkakia (MARANGOU 1992: 422, fig. 73f) could be schematic representations of multiple groups.

population – such as initiated individuals, or not yet gendered/ initiated members of a group of people (as in combined asexual figures).

UNREALITY? ABNORMALITY?

There might then be complex, even multiple meanings in illustrated performance. Definitely, the represented themes do not seem to be always, or not necessarily, only anecdotic: The possibility of depiction of not only or not simply everyday events, but (also) of imaginary situations or tales really imposes itself when considering the representation of improbable or unrealistic happenings. The issue of a simple reproduction of everyday life is challenged in particular by the depiction of situations, which detach themselves from routine "normality", that is, more of "abnormality" than of "unreality" – in short, of a state of affairs in opposition to nature.

Indeed, in addition to double/triple/multiple anthropomorphic figures and besides hermaphrodites[32], some examples represent double-headed anthropomorphic or zoomorphic figures on one torso/body[33]. If the latter were illustrations of the real world possibly implying "otherness-deviance", such true-life originals could be conjoined twins – including bi-cephalous beings –, which would be added to examples of "different"[34] or infirm individuals[35]; they could also have constituted a known, even though rare, fact. Besides some Neolithic figurines with two or more heads, whose body is joined from hips to feet, in such out-of-reality representations one could include EN females with a phallic head and neck (if they were not meant rather as hermaphrodites)[36]. However, reference to stories or legends, based either on real facts or on imagined occurrences cannot be excluded either, possibly symbolizing a scene in a parallel reality, e.g. a mythological narrative, or aiming at sympathetic magic.

Zoomorphic figurines are generally less frequent than anthropomorphic ones on sites of the Greek Neolithic. However, rarely, as in Dikili Tash in Eastern Macedonia[37], they

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[32] MARINESCU-BILCU 1974b: 421, fig. 15; MARANGOU 1992: 183; MARANGOU 2009; MARANGOU 2013.

[33] In Thessaly, Vinča and Precucuteni cultures, e.g. MARINESCU-BILCU 1974b: 421, fig. 15; VASITS 1936: 120: 552, pl. CXVIII: 549. GIMBUTAS 1982: 121, fig. 86; 122, fig. 90; 127, figs. 100-101; MARANGOU 1992: 165,170, 183; MARANGOU in press a. See also two female torsos in one body at Catalhöyük: MELLAART 1970: 170.

[34] As a « Down syndrome » human head from Thessaly: HOURMOUZIADIS 1994, pl. 87; see also DIAMANDOPOULOS *et al.* 1997.

[35] Even "hybrids": MARANGOU 2013.

[36] MARANGOU 2009.

[37] For the material from Dikili Tash (excavations Jean Deshayes) presented here see: MARANGOU 1986; MARANGOU 1992: 12-20; MARANGOU in press a.

are unusually more numerous than anthropomorphic ones in certain sub-phases, in particular Dikili Tash IIB[38].

Among zoomorphic figurines from this site, a category relatively restricted in number, mainly belonging to what we call type B, represent mostly domestic animals such as cattle, sheep or goats. These figurines had, when complete, maximum dimensions of up to 9 or 10 cm and occur more or less regularly during the various sub-phases of the Late Neolithic.

A second category (type A)[39] of autonomous zoomorphic representations[40], much more numerous and larger in size – initially up to 20-25 cm long – presents some particularities, such as the usually light colour of the surface, obtained by a special treatment. In general they were not well fired and evoke an iconography of large animals. Most of them show a dewlap and curved lines around the upper part of the legs and shoulders[41] (pl. 4), possibly representing rolls of fat; others have massive forequarters without a dewlap and bulky forelegs[42] (pl. 3). Horns or ears are usually broken.

Although some of their features seem difficult to understand, the represented animals do not seem to be completely imaginary beings: there are constant representation trends and their species might be recognizable to some extent. In fact, if the represented subjects refer to different originals than the figurines of category B, and if their large size is in scale, those could represent imposing animals, if not wild ones. Several wild animals were in fact hunted on the site in period DT I, according to osteological evidence, the largest ones being aurochs and brown bear[43]. Nevertheless, it is possible that figurines with rolls of fat represented rather domestic animals[44]. Indeed, bovines, but also pigs are preponderant in the osteological material of the site, in general, in comparison to sheep and goats [45]; however, not all animals present on the site were represented[46], which shows a deliberate selection of animal themes, in particular concerning type A zoomorphic figurines.

In contrast to the smaller category, more regularly distributed during the various sub-phases, large, type A figures occur specifically during the middle of the second phase

[38] Later part of the LN, phase DT II: around 4825-4500 BC (BLECON, SEFERIADES, TREUIL 1992: 33).

[39] Several fragments of similar large figurines are included in a surface collection, which has been studied with the kind permission of the Ephorate of Antiquities of Kavala; one more fragment was found in Dimitra (MARANGOU 1997, pl. 70c).

[40] Distinguished from zoomorphic vases and stands, which bear in general a rich decoration: MARANGOU 2004.

[41] MARANGOU 1986: 338, fig. 4 ; MARANGOU 1992: 427, fig. 78a.

[42] MARANGOU 1992: 427, fig. 78d right.

[43] HELMER 1997.

[44] As suggested by Arek Marciniak, who also noted the resemblance of some heads to sheep rather than bulls; Eftychia Yannouli also suggested sheep, bovines or in general ruminants for some figurines (oral communications).

[45] HELMER 1997.

[46] E.g., pig figurines were not found (Deshayes excavations): MARANGOU in press a.

of the Late Neolithic on this site (Dikili Tash IIB), more sparingly later and exceptionally earlier and their presence is defined in space and time, since there is a relative frequency of such large figurines' fragments in two neighbouring soundings and in successive levels. The maximum of their occurrence contrasts with the occurrence of human figurines, the latter mostly belonging to the last phase of the Late Neolithic (Dikili Tash IIC) (table 1); spatial co-existence with anthropomorphic figurines is in fact exceptional; only once was a fragmentary figurine of a woman, as well as three fragments of animal figurines of type A and a micro-miniature table or stool – the latter in scale with the female figurine –, found between two excavation levels. This exceptional proximity, purposeful or not, makes in any case obvious the difference of size, style and treatment between animal – type A- figures and human figurines. A probably mutually exclusive occurrence in most cases shows a lasting preference either for the theme "large animal" or of the theme "human"[47]. However, there seem to exist examples of such particular combinations of a human with a large animal (see further).

In spite of the scarcity of relative information, some interesting facts have also to be noted about the associations of fragments of such large figures. Four fragments were thus found in the same level as two clay rings of similar manufacture, a clay disk decorated with a serpentine pattern on both sides and several beads. Another figurine fragment was also found, in a lower level, with a third clay ring and a miniature, incised bi-conical vase. Such rings and disks were not found anywhere else on the site during the Jean Deshayes excavations. Besides, there seems to be a spatial concentration of some zoomorphic and anthropomorphic artefacts and a few animal figurines fragments in successive "levels" and in a restricted area, including a zoomorphic, decorated vessel probably used as a lamp or "incense-burner"[48].

Interpretations of such large and heavy animal figurines as toys are obviously to be excluded in any case[49] and one should consider other possible symbolic meanings. Indeed, things become more complicated, as most of the discovered A type zoomorphic figurines would have been two-headed[50] (pl. 4). They may indeed represent specific species, as they look mostly like bulls, oxen or aurochs, less often like bears. There are a number of such large figurines from the site, with perhaps two smaller examples[51], while there is perhaps only one, much smaller, double-headed animal figurine from Thessaly[52]. The suggestion that these could represent mating animals should be avoided as non-realistic (at least if the

[47] LN female figurines may in fact be associated with furniture and miniature vases (large bibliography, see among many others: MARANGOU 1992: 219; MARANGOU 1996; MARANGOU in press b.

[48] MARANGOU 1992: 19; MARANGOU, STERN 2009: 398-399.

[49] MARANGOU 1986.

[50] ZERVOS 1963: 384-385, figs. 555, 557, 558; MARANGOU 1992: 183, 427, fig. 78a.

[51] Surface material, see above, footnote 38.

[52] ZERVOS 1962: 260, fig. 305 (Magoulitsa, Thessaly).

representations were meant to be conform to nature), in particular regarding bovines, sheep or other ruminants, or bears. One could argue that they represent real conjoined twins, which would be consistent with the above mentioned suggestion about the representation of real exceptional births, deviance or infirmities by human figurines – as there are a number of human figurines possibly representing such "conjoined twins", in the Balkans and the Near East for example (see above) –, but this does not seem credible here, in particular taking into account the symmetrical location of the heads on the two extremities of the body. One should not completely exclude the possibility that such depictions were inspired from some exceptional event, represented in a schematized form, although this appears rather too far-reaching. Bi-cephalous animals represented in Neolithic figurines seem in fact rather to be counter-nature images and the idea at the origin of such representations may also and perhaps more probably result from mental images and unreality.

The initial number of originally double-headed figures is unknown, as we mostly have fragments. One figure has been reconstructed, with the exception of one head, from three fragments found in neighbouring soundings and levels, containing ash (later part of the Late Neolithic). Both heads had been broken off and the body had been divided into two parts, in a comparable way as is the case of fragmented Neolithic figurines in general, perhaps meaning the end of their life-cycle. However, the preserved fragments of large animal figurines of type A found during the excavations by J. Deshayes consist mostly of heads, forequarters and forequarters with heads, forty pieces out of a total of about seventy type A fragments (table 2). There are several broken legs (29) and only one non-characteristic body fragment and one credible fragment of hindquarters. This overwhelming number of fore parts and rarity of hind parts could then suggest the existence of several at least bi-cephalous zoomorphic figurines of type A on the site, during certain phases and in a restricted area.

In several cases, bi-cephalous figurines from Dikili Tash also show a protuberance under the belly[53] and when, exceptionally, the two heads are preserved, they do not seem to be completely identical[54]. We do not know if two-headed animal figurines *always* had dissimilar heads, a situation which has been interpreted elsewhere as a possible transformation of a being into a different one, leading to interpretations related to spiritual, shamanistic worlds[55]. It remains that this is binary imagery, believed by some to be a corollary of the human tendency to conceptualize binary associations of all sorts; "binomialism" would be a "universal human perception rather than a feature of specific cultures"[56].

[53] ZERVOS 1963: 385, fig. 557.

[54] ZERVOS 1963: 385, fig. 558.

[55] MUNDKUR 1984: 459, fig. 24.

[56] MUNDKUR 1984: 466,475 (comment by George KUBLER).

The choice of the theme of particular species of animals for the representation of large, double-headed beings was apparently purposeful. Narratives of unreal, invented situations or events are part of collective imagination. In this connection, links between animal, normally bovines and female representations are occasionally mentioned, such as a seated female and a bull figurine initially put together on an elevated niche of a house in the EN[57], or one or more figurine(s) connected to a *bucranium*[58], while an elk antler, bull-shaped plaque was decorated with a female representation[59], a seated, probably female, figurine was modelled on a bull head in the FN[60] and a LN female figure was modelled on the back of a bull figurine [61]. The symbolic association of these two themes would stem in the collective imagination[62] more credibly, than depict everyday life. The symbolic importance of *bucrania* or large clay animal or hybrid heads[63] connected to fireplaces, passages or entrances to buildings has been emphasized[64]. Besides, a *bucranium*, a real skull of a domestic bovine covered with clay, found in a level of the earlier phase, the beginning of the Late Neolithic, during the new excavations; it would initially have been attached to a wall or roof[65]. The symbolic meaning of *bucrania* is indeed attested by their exposure on walls inside buildings[66]. Large, clay animal or hybrid heads would also have been exposed mostly inside buildings; such depicted themes might have constituted parts of a narrative; they would have had a powerful, disquieting or captivating effect[67].

Even if some representations may seem monstrous[68], it should be remembered that monsters belonged since antiquity to a paradigm different than the scientific, modern one, up to the founding of teratology as a science by Geoffroy Saint-Hilaire in the 19th century[69].

[57] NIKOLOV 1989: 31-32 (Karanovo I).

[58] MAKAREVITCH 1960 (Sabatinovka II); POGOSEVA 1985: 104 (Tripolye). A large clay seated figurine and a large "bucranium" fragment were found in Dispilio (end of MN) (MARANGOU 2000: 233, note 85); HOURMOUZIADIS 2002: 256-257, fig. 7.

[59] GIMBUTAS 1982, fig. 178 (Bilcze Zlote); ȚURCANU 2013: 68-80, pl. 174.

[60] MONAH 1997: 297, figs. 45, 7a-e; MONAH 2015: 200, figs. 45.7a-c (Căscioarele).

[61] NIKOLOV 2015.

[62] J. Cauvin (CAUVIN 2004: 25-30) has studied in particular the symbolic relation between female figure and aurochs in the Neolithic.

[63] MARANGOU, GRAMMENOS 2005.

[64] LAZAROVICI 1989; LAZAROVICI, LAZAROVICI 2009, 66, 68, 69, 71, figs. 5, 6, 8 (with monumental heads in buildings considered as sanctuaries with altars).

[65] DARQUE, TREUIL 1998; DARCQUE *et al.* 2007: 250, figs. 2-3.

[66] KOUKOULI-CHRYSANTHAKI *et al.* 2007, 54, fig. 12.2 (*bucranium*), 61, fig. 25a-b (house model with "*bucrania*"); LAZAROVICI 1989; MARANGOU, GRAMMENOS 2005; LAZAROVICI, LAZAROVICI 2009, 66, 68, 69, 71, figs. 5, 6, 8 (with monumental heads in buildings considered as sanctuaries with altars).

[67] MARANGOU 2010 (on large clay heads).

[68] MARANGOU, GRAMMENOS 2005.

[69] GEOFFROY SAINT-HILAIRE 1832-1837.

If for modern science monsters are due to anomalies and exceptions from anatomic laws, still in the Middle Ages they rather belonged to the "enchanted thought" and resulted from the recombination of components of animal and human organisms beyond and contra the laws of normal anatomy.

Directions for further research

In short, two trends have been observed among the examined non-standard Neolithic images. Possibly imitating reality, a number of the examined figurines represent seemingly actual events or processes or observable instants or situations, or they materialize narratives or tales referring to such "normal" events or routine situations. Others include impressive, fascinating, out-of-the-ordinary images, such as those of extraordinary births or astonishing individuals, for example hermaphrodites, infirm or misshapen persons and "conjoined twins", *alias* bi-cephalous humans and animals. In all cases, either representations of real or of fictitious performance, with real or imaginative actors, by definition they constitute enactments, incorporating interrelations among groups or persons and/or animate beings and inanimate entities, where the fixity of- and in performance seems constant: there can be no change of combination, no modification, the instant is permanent. This is in fact the point at issue, why, in some cases (not for all), there was no alternative for the illustrated situations and the combination of elements, while in other cases the three-dimensional images could vary their state or position in space and their mutual connection. The narrative character of permanent fictional "scenes" of various types could, beyond snapshots, show didactic procedures, as biological or social initiation, or mythological narratives, rituals[70] and generally metaphors of collective imagination. Although we do not know the circumstances under which such fixed scenes were presented and used, it seems plausible that the pretence of such complex representations would constitute performance, as an "action of performing a play, … a ceremony, a rite"[71], that is, instances of make-believe, directed to an audience.

In conclusion, either reality or fiction, symbolized action, true or mythical scenes, had been depicted and thus permanently materialized during their performance, as recalled or conceived. Although we may never know the precise reasons, uses and functions of such composite, uncommon and/or unnatural figures, it appears that the narratives to which they belonged were following known codes and were meaningful for their creators and users.

[70] In fact, ritual and performance are overlapping terms: DEMARRAIS 2014.

[71] OXFORD ENGLISH DICTIONARY: 2160, «performance», nr. 3.

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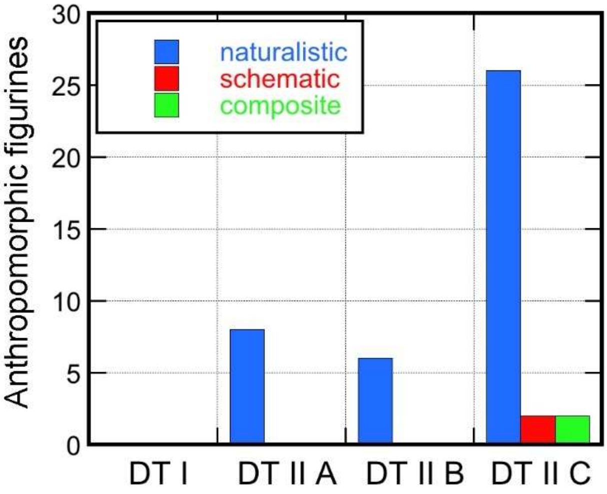


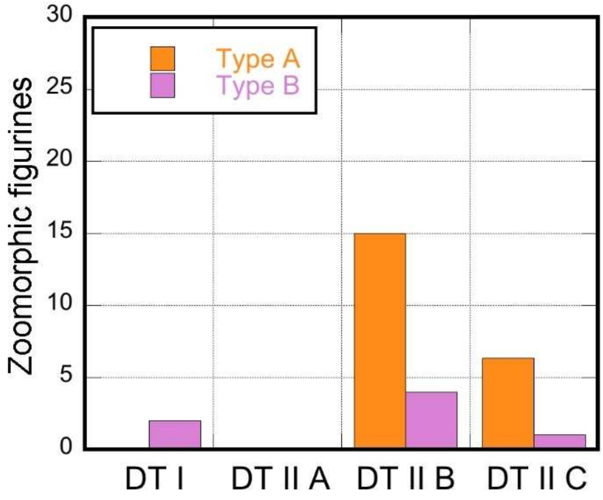


Table 1. Comparison of the presence of anthropomorphic compared to zoomorphic figurines at Dikili Tash in sub-phases of LN (Deshayes excavations, sector B1, soundings W29 and W30) (based on MARANGOU in press a).

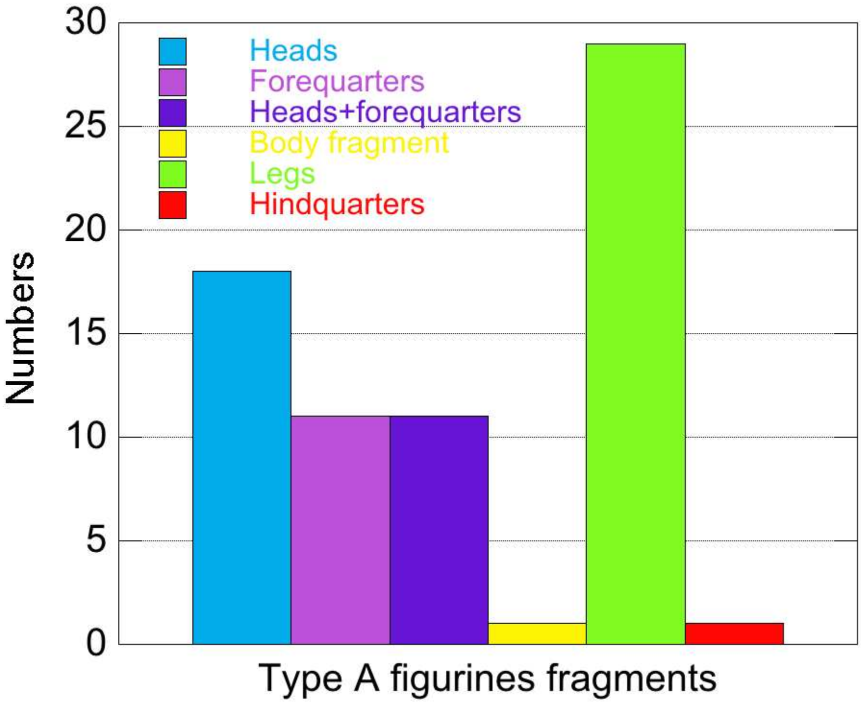
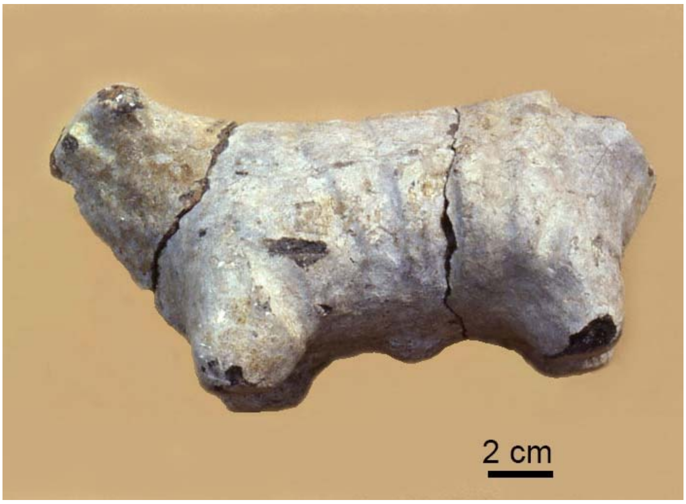


Table 2. Frequency of fragmentary parts of type A animal figurines at Dikili Tash
(Deshayes excavations, sector B1) (based on MARANGOU in press a).

Pl. 1. Figurine without preserved sex distinction, seated, bearing an object on its knees (Dimitra III, NN) (photographs by the author).

Pl. 2. Pregnant figurine (Vassilika III, NN) (photographs by the author).

Pl. 3. Fragment of a large type A animal figurine (Dikili Tash IIB, NN, excavations Jean Deshayes) (photographs by the author).



Pl. 4. Double-headed type A animal figurine (Dikili Tash IIB, NN, excavations Jean Deshayes) (photographs by the author).

CONSIDERATIONS ON ALTARS FROM THE SOUTH-EAST EUROPEAN NEOLITHIC

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Abstract: This article approaches natural-size altars, as well as those altars that are fixed, immovable, being actually pieces of furniture, whose functionality is discussed below. In order to avoid the confusions that are often created by using the same term for different categories of objects, we consider the altar to be strictly the offering table devoted to one or more divinities, on which offerings are presented and around which the rituals take place. The altar is essentially the most restrictive element among all other facilities used for rituals. The altar is the most important piece of furniture in a consecrated worship space. The mere table installed in a household or other feature does not qualify it as an altar table, but the association with a number of other fixed elements, as well as a valuable and varied mobile inventory, can lead to the idea that the table was more than an object of furniture, of great importance in terms of rite or rituals. In addition to the mobile elements, the altars presented above are associated to hearths, columns, benches, monumental statues. Obviously, the objects we find on the table, around it, or under the table are very important. We might distinguish activities of offering products of vegetal or animal origin, either by depositing them in the temple, on the table, or by burning them in containers on the altar. Considering the practice of offering to the divinity by burning, certain types of hearths can also be altars, depending on the associated elements. Other possible activities are those of blood sacrifice. Unfortunately, the absence of analyzes that testify to this practice prevents us from making further assessments.
Keywords: *South-East Europe, Neolithic, Copper Age, Altar, statistic*s

We note that, over time, in the literature have been published numerous so-called altars, miniature altars, cultic tables, offering platforms or other worship altars, many of which are miniature furniture or pots in various shapes and sizes. The term is vague enough to be used for a heterogeneous category of artifacts of different shapes, including painted

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plaques such as those from Ovčarovo[2]. From the point of view of the shape and function, these artifacts are different. We distinguish boxes, tables, prismatic vessels, supported on three or four legs, sometimes with a container on top[3]. The tables with legs, with or without a cup on top, are some of the most decorated items[4] whose functionality still needs to be discussed. Their appearance in extremely diverse contexts is also questionable, and sometimes it is considered that these contexts do not necessarily qualify for worship activities. However, the miniatures fall into the non-functional sphere and for this reason we consider that they were used for other than domestic purposes. In another interpretation, these so-called small altars were considered to represent miniature sacred scenes, reproducing those that would have taken place on a real scale[5].

This article approaches natural-size altars, as well as those altars that are fixed, immovable, being actually pieces of furniture, whose functionality is discussed below. In order to avoid the confusions that are often created by using the same term for different categories of objects, we consider the altar to be strictly the offering table devoted to one or more divinities, on which offerings are presented and around which the rituals take place. The altar is essentially the most restrictive element among all other facilities used for rituals[6].

In Romanian, and not only, there was no clear terminological distinction between the altar room, the altar table or the offering table, the word "altar" comprising all these varieties of meanings[7]. The word altar comprises several meanings: part of a church in which the priest organizes the mass; cultic table on which the mass is conducted in the Christian church; in Antiquity: a high place or a table on which sacrifices were offered to the gods[8].

The altar or more specifically the altar-table is the special surface on which a sacrifice is offered, and it is intended as a place of offering. During the Neolithic period, and even later, in the classical Antiquity, the altar was built from a simple stone or a cluster of stones, evolving over time into developed architectural forms. The altar table on which sacrifices were offered in ancient Greece was in front of the temple portico. Underneath the altar table there was a water bowl with which the believers sprinkled themselves before entering the temple to make offerings in the *secos*[9]. The materials used in the arrangement of the

[2] BAILEY 1993: 209-210.

[3] MIREA 2011: 42.

[4] BAILEY 2000: 106-107.

[5] GIMBUTAS 1989: 116.

[6] ADAMS 2004: 38.

[7] LAZAROVICI GH., LAZAROVICI C.-M. 2007: 63.

[8] NODEX 2002.

[9] DUDLEY 1846: 388.

altar tables vary: natural, perishable materials, but also precious and, implicitly expensive, richly ornamented materials[10].

The earliest altars are from the Pre-Pottery Neolithic, when the dedicated cult architecture develops. In all megalithic sites there are cult buildings as well as altar tables. At Nevali Çori, in the peripheral sanctuary, the altar was made of stone and demarcated by columns[11]. At ʻAin Ghazal, in one of the buildings in the eastern area, the altar is represented by a stone slab, surrounded by three vertical stones and an anthropomorphic block 80 cm high[12]. The situation is similar to that of the second eastern sanctuary, where the altar consisted of two massive limestone slabs, which were supported by three pairs of vertical stone blocks[13]. Of course all these altars are associated with other elements, such as columns, hearths, decorated walls[14].

The Balkan-Anatolian area during the Neolithic period is an amazing space in terms of artistic and spiritual manifestations. Some examples catch our attention. At Aşaği Pinar, Turkey, in room 8a, there is a platform of 1.50x0.70 m above which there are concentrated several small tables on legs (Fig. 1) [15]. At Nea Nikomedeia, northern Greece, the altar was in a corner of the building. On the table there were five statuettes and hundreds of discs with uncertain functionality[16].

The site of Achileion has different manifestations, depending on the reference stage. For the early IIIb phase, there is a large stone altar in the yard, on which statuettes and vessels were placed. Another altar was made of clay, shaped like a platform, inclined, with small cavities in the corners (Fig. 3, 4). M. Gimbutas interprets the four alveoli as places for depositing offerings or cups with spherical bottom[17]. In the sanctuary from the middle of level IVa there is an altar with statuettes and vessels[18].

In the Macedonian area there are some altars with particular shapes, in the form of large containers, sometimes called tubes. At Tumba Madžari, the altar covered 1 sq. m and had the appearance of large, rectangular containers with rounded or even circular edges (Fig. 5). Although the altar was not illustrated in the original publications, it probably looked like the one from the recent research. The study mentions the discovery of 15 cm high statuette heads (the part preserved) around the containers[19]. These so-called "tubes"

[10] DUDLEY 1846: 72.

[11] ÖZDOĞAN 2007: 61.

[12] ROLLEFSON, KAFAFI 1997: 35.

[13] ROLLEFSON 2005: 8.

[14] KOVÁCS 2016: 60-62.

[15] ÖZDOĞAN E. 2009: 217.

[16] BUDJA 2004: 122; MILISAUSKAS 2002: 186.

[17] GIMBUTAS 1997: 152.

[18] GIMBUTAS *et al.* 1989: 216.

[19] ZDRAVKOVSKI 2009: 45.

made of clay mixed with straw are circular or square, with analogies in the sites of Zelenikovo, Stenče, Mramori, all from the Anzabegovo-Vršnik cultural group[20].

In the case of the sanctuary at Vrbjanska Čuka, the altar was positioned alongside the northwest wall of the building, in a specially designated area of 2x2 m, and it was a complicated construction. Particular attention is drawn to the massive relief on the north-eastern side, stretching from bottom to top, diagonally on the wall, and having triangular corners, zigzags in the middle of the wall surface[21]. A similar embossed decoration starts at the base of the wall, with a garland that surrounds the entrance. The distinctive trait of this altar is the presence of four small containers, besides the main container (Fig. 6)[22]. Four small quadrilateral containers, and one larger container, were on the south-western wall of the sanctuary, on a common platform with a total length of 2 m. The base of the platform was 0.5x0.5 m, giving it the appearance of a row of irregular squares (Fig. 7). The fact that the vessels were not interconnected suggests that the difference in level made possible the circulation of sacrificial liquids[23]. A separate opinion is that of D. Zdravkovski, who considers the sanctuary at Vrbjanska Čuka to be just an oven, a burning place, which was used to evaporate the water through the four boxes next to it, leaving a thin layer of salt, used predominantly in household consumption[24]. An impressive amount of ceramic fragments was collected from inside, but no vessels preserved *in situ* were found. The vessels had been arranged mostly in the center of the building and along the walls. In the southwestern part of the room there were scallop shells, which were roasted and formed a pile of white powder. In the eastern part of the building there were two clay altars in the form of four-legged tables, and on the southern side there was a lamp-altar with a statuette-head on the top, specific to the Macedonian area[25].

Unfortunately, we do not have more data on how it was made or what it looked like. In Sanctuary 1 from Kormadin, the altar was made of clay, rectangular in shape, like an elaborately decorated cassette with a series of rectangular metopes on the sides (Fig. 10). The upper part was surrounded by a clay frame with alveoles (Fig. 8, 9). At the corners there was a part in relief, reminding of the horns of consecration. At the time of the discovery it was not possible to determine precisely where it was, but the discoverers mentioned that it must have been on a pedestal near the oven. The interior of the altar was shaped like a very shallow container, up to 10 cm deep[26].

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[20] KANZUROVA, ZDRAVKOVSKI 2009: 140.

[21] KITANOVSKI *et al.* 1990: 109.

[22] KITANOVSKI *et al.* 1990: 109.

[23] KITANOVSKI *et al.* 1990: 110.

[24] ZDRAVKOVSKI 2006: 109.

[25] KITANOVSKI *et al.* 1990: 109.

[26] JOVANOVIĆ, GLISIĆ 1961: 131.

Numerous fragments of adobe have been discovered near the altar, ornamented with different geometrical motifs, inlaid with white and red, which led to the idea that the building has been decorated on the inside[27].

The Sanctuary 2 building comprised two rooms separated by an intermediate wall. A small podium separates the southern room in two halves. Inside this podium there were two columns that supported an altar table, over which a monumental clay bucranium was installed[28]. The altar is narrow and framed or supported by two columns (Fig. 11). The oven and the hearth are placed in front of this altar. The central location of the altar, as well as the double column, give the monumental appearance of this building[29].

Dated at the same period as the Kormadin sanctuaries are those discovered at Crkvine. In Building 1/2008, the altar is a large box, with a border raised compared to the other three sides, associated with two ovens, a clay bucranium and a grinder fixed on a clay pediment. The altar was in the north-west corner of the building. Its dimensions are 0.85x0.65 m. The shape is vaguely trapezoidal, with an oval inner box (Fig. 12). The original depth of the box was 8-10 centimeters, and it was reworked several times by adding material. On the southwest side of the box was discovered a "loaf of clay" of 20 cm in diameter. Next to this altar, to the south, a group of pots consisting of two large fragmented vessels and a bowl was found, alongside a conical item that had been wrapped in canvas, retaining the impressions on its surface[30].

The Early Neolithic Period on Romania's territory brings modest contributions to the repertoire of altars. The earliest reference to an altar on the Romanian territory was found on the site of Zăuan, Sălaj County. Here was discovered a prismatic altar, made of porous paste, poorly smoothened, with a vertical perforation and several cuts on the sides, considered to render a stylized human figure (Fig. 13). The analogies for this artifact were identified in the Thessalian area, at Otzaki Magoula[31].

For the Mid Neolithic Period, we are already discussing a visible evolution in all spheres of economic, social and spiritual life. Some of the most important information for this period comes from Parţa, Timiş County, and they provide details on the manner of building and using the altar tables. Inside Temple 1 there are three altars, named A, B and C. Altar A is a complex construction comprising several elements: the hearth for burning offerings, the base which held a bust-idol, a pedestal behind it where ashes were deposited as a result of the burning of the offerings, a box for depositing offerings, the portable hearth broken in two, only half preserved (Fig. 14). The dimensions of this altar are: length: 3 m, width: 1.6 m, southern side height: 55-60 cm. The west side of the box was destroyed by the

[27] JOVANOVIĆ, GLISIĆ 1961: 135.

[28] JOVANOVIĆ, GLISIĆ 1961: 128.

[29] JOVANOVIĆ 1991: 122.

[30] CRNOBRNJA *et al.* 2009: 16.

[31] LAZAROVICI GH. 1988: 26.

construction of Temple 2[32]. In the north-western corner was the clay box, with the edges of approx. 30 cm in height, in which certain products were deposited as offering, a function subsequently taken up in Temple 2, by the altar tables marked B and C and the boxes marked D and E[33].

Altar B was interpreted as dedicated to sacrifices of blood, due to the discovery in the same perimeter of many splinters of flint, layers of daub and gravel and skulls of small animals (Fig. 16) [34]. Distinctive for this altar are the two clay columns with attached bucrania that demarcate the space[35]. The third altar in Temple 1 is from a less common category, being in fact a hearth embedded in a clay frame on which *fumigation* was carried out (Fig. 17). In the pit near the hearth were discovered levels of ash and coal, resulting from the burning of the offerings[36].

Temple 2 has several altars inside. The largest artifact is the central altar in the eastern room on which the monumental double statue was fixed (Fig. 18). It was made in a manner unique so far. The dimensions of the pedestal are 1.35x0.70x0.55 m, and the side trays are 15 cm wide in the front and rear, 25 cm wide at the sides. The edge was decorated with an alveolated girdle in relief[37]. The base of the monumental statue was made of clay mixed with wet sand, pounded and then plastered with clay having the consistency of ceramics. The lateral edges were incised, in the soft clay, with wide meandering decorations, later painted red[38]. In terms of representation, the two lateral drawings render stylized anthropomorphic figures, in praying positions, but they are not identical. The southern side is below the feminine statue (the one with the attached womb), it has an extra meanderer strip in the lower part between the legs, which could represent, according to Gh. Lazarovici, a *phoetus* or a *phallus* as symbols of fecundity. The edges of the pediment have been destroyed[39]. The center of the pediment was decorated with stripes made with the fingers, at right angles[40].

The decoration on the pediment induces the idea of a figure in the position of invocation or praying. Viewed from the side, the images made by incisions seem to support the trays with their arms[41]. Inside, the central part is delimited by a wall, and on both sides of the wall there were altar tables. They were 2.5 m long, being over-raised by 20-30 cm

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32 LAZAROVICI GH. *et al.* 2001: 206.

33 LAZAROVICI GH. *et al.* 2001: 207.

34 LAZAROVICI C.-M., LAZAROVICI GH. 2006: 305.

35 LAZAROVICI GH. *et al.* 2001: 209.

36 LAZAROVICI GH. 2003: 68; LAZAROVICI GH. *et al.* 2001: fig. 170; I.2, pl. 40/3-4; pl. 41/3.

37 LAZAROVICI GH. *et al.* 2001: 226.

38 LAZAROVICI GH. *et al.* 2001: 227.

39 LAZAROVICI GH. *et al.* 2001: 228; I.2, pl. 47/3.

40 LAZAROVICI GH. *et al.* 2001: 228, I.2, pl. 47/2; 51/1, 3-5.

41 LAZAROVICI GH. *et al.* 2001: 220.

from the floor[42]. Although the shape of the altar-tables did not change significantly, during a final stage, on altar C the vessel was replaced with a box, and the altar table D was divided into two separate parts (Fig. 19) [43].

The offering table on the northern wall is 1.1x0.40 m, but it was about 2 m, with the edges destroyed at the time of the discovery. The table was made of porous, unburnt clay. The side towards the wall was fixed on poles driven into it. The inner side was supported by three pillars fixed to the floor. There had been whole vessels on the table; next to one of the vessels, there was a whole femur of a young sheep or goat, the remnants of an offering that had been deposited either in the dishes or on the table[44].

The site from Liubcova has no altar-table discovered, but the two clay legs of over 50 cm in height suggest such a possibility (Fig. 20) [45]. There are three monumental artifacts in this place. The statuette leg has 30 cm for the part preserved, up to the thigh, which makes us believe that the whole statuette would have been at least one meter tall. The other two legs, probably from a table, lacking anatomical features, have about 50 cm, the parts preserved. At Căscioarele, within the Boian culture, there is a 30-40 cm high altar table, painted with curved motifs of white-yellowish strips[46].

At Isaiia the altar in the sanctuary was circular in shape and it had four legs (Fig. 21)[47]. In the building L5 there are two altar tables in the form of 10-12 cm high boxes[48].

For the Precucuteni culture of great importance is the altar from sanctuary L11 in Târgu Frumos. This has been done in a very ingenious way: two clay plates joining in the upper area in a kind of cornice curved inward, where a new plate continued (Fig. 23). On the front plates are represented schematically two human silhouettes[49]. The altar was painted on the outer surface and on the border with a whitish engobe, over which there were geometric decorative motifs, namely the rhombus with a circle inside[50].

In the Precucuteni III level from Târpeşti, Neamţ County, is mentioned Dwelling 6 which was 10x7 m (Fig. 24). Although it was disturbed by later arrangements, it was possible to find the existence of an oven, built directly on the floor. The edge was slightly elevated from the floor, and inside was an anthropomorphic statuette. In the north-eastern

[42] LAZAROVICI GH. *et al.* 2001: 211.

[43] LAZAROVICI C.-M., LAZAROVICI GH. 2006: 313.

[44] LAZAROVICI GH. *et al.* 2001: 234.

[45] LAZAROVICI C.-M., LAZAROVICI GH. 2006: 507.

[46] DUMITRESCU VL. 1970: 10.

[47] URSULESCU 2001: 54, fig. 3; URSULESCU, TENCARIU 2006: 81 şi urm.; fig. 5-8, 11-13; LAZAROVICI C.-M., LAZAROVICI GH. 2006: fig. IVd. 24; URSULESCU, TENCARIU 2009: 91.

[48] URSULESCU *et al.* 2002; URSULESCU 2004; URSULESCU, TENCARIU 2006: 47, 49, 52.

[49] URSULESCU *et al.* 2001: 252-254; URSULESCU, TENCARIU 2004: 137-139.

[50] URSULESCU, TENCARIU 2004: 137,139; LAZAROVICI C.-M., LAZAROVICI GH. 2008: 16.

corner three short and massive clay legs stand out, which could come from a table with a wooden board (Fig. 25)[51].

Two triangular altars are known within the Petreşti culture. The one from Pianu de Jos was published as an open-air arrangement[52], and the one from Ghirbom was in a building (Fig. 26, 27)[53]. The altar table from Pianu de Jos had a maximum length of 1 m and was supported by three legs placed at the corners, and the board was about 50 cm above the ground[54].

I. Paul believes that the rituals carried out in the Petreşti communities, both at Ghirbom and Pianu de Jos, would have an agrarian character. The hypothesis is also supported by the fact that both complexes included the same number of items, some of which belonged to the same category, with small differences[55].

For the Tiszapolgar level in Şeuşa a granary-altar is mentioned, made in the same manner as already described. The size of the table was 1.5x1 m, with the edges slightly raised, which means it would have been slightly hollowed. It was oriented on the east-west direction with a slight deviation. Associated with the altar are several grinders, a crusher and several vessels. The whole feature was interpreted as referring to the agrarian rites, being oriented on the trajectory of the sun in the autumn months, when harvesting takes place, and the rituals of offering products to the gods ensuring a good harvesting were carried out[56].

Concerning the altars in the Gumelniţa culture, we mention the presence of the altar from Vităneşti, namely Feature 1/1993. The altar was composed of two parallel clay plates, approximately 80 cm apart from each other, oriented east-west. The first plate, with its upper part fragmented, has the dimensions of 0.80x0.35x0.24 m. The lower part was intentionally widened to provide stability in the upright position. The plate was progressively restored with several layers of porous clay, covering the original, good quality clay. The second plate is a composite object of two elements. The first element is a wide, sole-like support, narrowed towards the top, rounded. The second element was fixed over the first. It had a concave base, narrowed to the top. Associated with these two elements are several adobe fragments, with a semicircular section, and slightly raised edges. Next to it was a stool and a circular clay plate, with impressions on one of the surfaces. There was also an item of clay in the shape of a horn, most likely a fragmentary bucranium. Near the

[51] MARINESCU-BÎLCU 1981: 48.

[52] PAUL 1965: 5, fig. 1-4, pl. I-II; PAUL 992: 104-106, pl. LII/2-3.

[53] ALDEA 1974: 40-47, fig. 1-3; Monah 1997: 34, n. 49.

[54] PAUL 1992: 104.

[55] PAUL 1992: 107-108.

[56] BÂNDAC, MIHAI 2003: 41.

cult complex there was a lot of ash and burning traces. The whole feature is interpreted, with certain reservations, as an altar-type structure, located near the dwelling[57].

At Hârşova two monumental altars are described in the L11 building. The fixed elements consist of two monumental altars, a box, a bench and a large statue. The sanctuary had two phases of operation. In the first phase the altar-table built in the north-western corner stands out, with the dimensions of 1.30/1.40x1.20 m, on a layer of shards. The large statue, from which only the head was preserved, was placed on a pedestal (D. 28 cm) very slightly elevated from the floor (Fig. 28)[58]. In the middle of the pedestal a stick was inserted that could have supported in vertical position the large idol. In the narrower southern part of the altar, a pit of 30 cm in diameter was made, presumably for the preservation or storage of offering ships, whose traces were around the altar. During the second phase of operation of the sanctuary, the original altar was restored with smaller dimensions (1.70/1.10x1 m, H: 0.45 m) and the second altar was built (1.10x0.60 m; H: 20-30 cm). The box had smooth walls and was on the south-eastern side of altar 2 and it contained cremated remains (Fig. 29). In the central part there was a rectangular bench, 17 cm high. From the inventory point of view, we notice many vessels, a zoomorphic idol, a copper hair pin, and two weights for the loom[59].

For the Ariuşd-Cucuteni-Tripolie cultural complex, researcher C.-M. Lazarovici, studying the types of buildings dedicated to rituals, concludes that there is a standardization of the cultic architecture[60].

A first type includes smaller buildings that were built directly on the ground, with a thin layer of clay on the floor. As internal facilities we notice the hearth or the furnace, located in the central area of the building. Only the unusual inventory makes the difference between the sanctuaries in this category and the dwellings belonging to the same settlement[61].

Dwelling 5 from Târpeşti, Neamţ County (Cucuteni A_1-A_2 with Precucuteni elements), is a construction without platform. The building's dimensions are 12.50x5.20 m, with rectangular shape[62]. White painting was observed on the walls. The fixed elements consist of a hearth and a table, made of clay mixed with vegetal remains. Both the table and the hearth had rectangular shape, with raised edge. The table had rounded corners and slightly concave board. In combination with the hearth were discovered a series of pots *in situ*[63].

In the site at Ruginoasa, in Hut 9, was mentioned the discovery of a large, red-colored altar-table. Along with that in Hut 9, there are mentions about other items of the

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[57] ANDREESCU *et al.* 2003: 78.

[58] HAŞOTTI 1997: 81, fig. 107/1.

[59] HAŞOTTI 1997: 81.

[60] MANTU-LAZAROVICI C.-M., 2004.

[61] MANTU-LAZAROVICI C.-M., 2004, 51.

[62] MARINESCU-BÎLCU 1981, 73.

[63] MARINESCU-BÎLCU 1981, 74.

same type, made of coarse paste, coming from interwar researches. Sometimes these items have a raised board[64].

At Vorniceni, the altars in Building L11 were published with the neutral term of "arrangements". One of the altars, of rectangular shape, was in the western area, and the circular one was in the southern area. The rectangular altar is arranged directly on the floor, with a frame of 5-6 cm height. The circular altar is 70 cm in diameter and it has a smaller frame, 1-2 cm high[65].

At Truşeşti are mentioned altars whose form could not be reconstituted. The altar from Building L60 is in the immediate vicinity of the column-type idol. The shape was rectangular with rounded corners, attached to the ground (Fig. 30). The altar was composed of two uneven compartments, separated by a thick wall. Each side has been re-glued three times[66]. Another altar is associated with the column-type statues from L61. On the western side of the statues is mentioned an altar, without any other details, along with a cultic table, also without a description[67].

In the Ukrainian area of the Cucuteni Culture are mentioned several altars, mostly related to ceramic workshops. The three altars of Shkarovka were rectangular and fixed on a podium slightly elevated from the floor[68]. At Trostjančik, the altar is circular, deepened[69]. The building from Vladimirovka, being one with several fixed and movable elements, which qualify it as a temple, has a rectangular altar with dimensions of 1.6x1.5 m[70]. Dwelling 7 from Konovka has several altars inside. Altar 1, rectangular (80x35x20 cm), had very smooth edges and a spiral decoration on the board. Altar 2 was circular, 2 meters in diameter, and it supported 12 painted vessels placed radially around a central one. Two other possible, relatively square altars were located in the north-eastern part of the building, one of them painted red[71]. The most numerous altars are found in the Nebelivka temple, namely seven such arrangements, of which at least two were cross-shaped. Two other clay-covered platforms had grinders, as a space dedicated to this activity[72].

Unfortunately, not all tables have been preserved. We have analyzed those that have been preserved and published so, resulting in a brief typology, which will be completed whenever we identify a new type. We took into account the building material of the tables and their shape (Fig. 31, 32).

[64] LAZAROVICI C.-M., LAZAROVICI GH. 2012: 338.

[65] DIACONESCU 2011: 30.

[66] PETRESCU-DÎMBOVIŢA *et al.* 1999: 117-121.

[67] PETRESCU-DÎMBOVIŢA *et al.* 1999: 121.

[68] TSVEK 2016: 19.

[69] TSVEK 2001: 25-27.

[70] PASSEK 1949: 83.

[71] РЫЖОВ, ШУМОВА 2013: 67.

[72] VIDEIKO, BURDO 2015: 25.

Type A table

Type A is characterized by the fact that it has a generally rectangular shape and is constructed either from clay or clay-covered wood.

A1- Rectangular clay table on wooden legs

A2- Triangular clay table on wooden legs

A3- Low rectangular table made of clay, postament

A4- Rectangular clay table

A5- Oval table, made of clay, partitioned

A6- Table on legs, made of clay, rectangular, rounded edges, with perforations in the top

Type B table

B1- Circular table with four legs, flat board with raised edges

B2- Circular wooden table with four legs, flat board

B3- Cylindrical clay table, similar to a pediment

Type C table

C1- Rectangular, L-shaped table, made of clay, with over-raised edge, no board

C2- Rectangular altar table made of clay, with raised edges, box with elements inside

C3- Rectangular, squared table, made of clay, with over-raised edge, no board

C4- Rectangular clay table with no legs, similar to a pediment.

Regarding the typology of the altar tables, we note that the most frequent are A1, C1 and C3 (Fig. 33). Type A1 includes tables with wooden legs, from which the rectangular board has been preserved. Type C1 and C3 are table types without a board, with raised edges, arranged directly on the floor, found especially in the Vinča culture. Considering a series of buildings with such interior fittings, the high frequency of occurrence is warranted.

As far as the location of the altars is concerned, they appear overwhelmingly fixed on the floor. Other places are outside the buildings, or in the immediate vicinity of the sanctuaries (Fig. 34). Regarding the preference of their placing inside buildings, we identified a consistent batch for those of rectangular shape, other forms of buildings not being numerically consistent enough to be representative. We observe a wide variety in terms of positioning in rectangular buildings, but some favorite places can be found, in the central area of the building (Fig. 35).

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The altar is the most important piece of furniture in a consecrated worship space. The mere table installed in a household or other feature does not qualify it as an altar table, but the association with a number of other fixed elements, as well as a valuable and varied mobile inventory, can lead to the idea that the table was more than an object of furniture, of great importance in terms of rite or rituals. In addition to the mobile elements, the altars presented above are associated to hearths, columns, benches, monumental statues. Obviously, the objects we find on the table, around it, or under the table are very important. Unfortunately, we notice the same deficiency in the selective publication of the materials, with an emphasis on exotic objects or those with some artistic importance. Unfortunately, these issues prevent us from having a complete picture of the associated features or from making accurate assessments of the purpose of such arrangements.

However, we distinguish activities of offering products of vegetal or animal origin, either by depositing them in the temple, on the table, or by burning them in containers on the altar. Considering the practice of offering to the divinity by burning, certain types of hearths can also be altars, depending on the associated elements. Other possible activities are those of blood sacrifice. Unfortunately, the absence of analyzes that testify to this practice prevents us from making assessments. Only in the case of altar B at Parţa, in Temple 1, is proven the practice, through the many sharp shards of flint. In most of the sanctuaries flint tools and blades of different types are mentioned, but no explanations are given for their presence.

The buildings of the Precucuteni-Cucuteni period, their way of designing and organizing, as well as the altars, demonstrate religious practices, which confirm the gradual renunciation of magic, replaced by pre-established rituals[73].

The altar table can take the form of a stone slab supported by small columns as legs, a box inside of which were the cultic items, a table with decorated or undecorated board. From a geometric point of view, we distinguish triangular, rectangular, and circular tables. Sometimes they have legs, made of wood or clay, sometimes they are placed directly on the ground. Although the shapes are different, from the point of view of significance and activities, the altar is identical in all the cultic contexts we encounter. Moreover, once consecrated, a certain place does not lose its sacredness due to the abandonment of the settlement for various causes. The vast majority of the scrapped items inside the sanctuaries and temples are stored so that they are no longer touched, or do not come to unclean places. Such is the situation of the objects in Temple 1 at Parţa, deposited in Pit 63. Not only were the items deposited, but also the pit was "sealed" with several layers of clay daub[74]. The vast majority of altars have been rebuilt several times, with minor changes, as veneration takes place in the same location. It is worth mentioning a practice in the Christian environment

[73] LAZAROVICI C.-M., LAZAROVICI GH. 2008: 10.

[74] LAZAROVICI GH. *et al.* 2001: 212-214, I.2, pl. 33.

regarding the marking with a cross, fixed on the place of the altar, of a church disappeared in the Middle Ages, marking the consecrated place[75].

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[75] URSULESCU, TENCARIU 2006: 73.

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Fig. 1. Aşaği Pinar. Room 8 – the south-eastern corner with the altar-table fragments (after ÖZDOĞAN E. 2009: 218, fig. 9).

Fig. 2. Aşaği Pinar. Anthropomorphic statuette
(after ÖZDOĞAN M. 2009: 27, fig. 7).

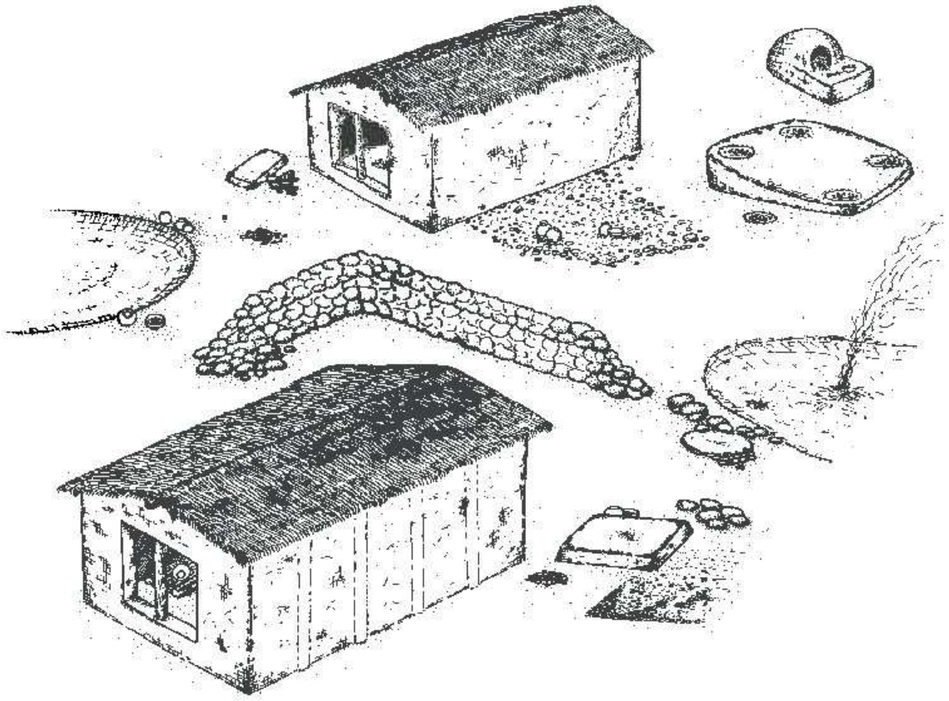


Fig. 3. Achileion. Open-air cult space from phase IIIb
(after GIMBUTAS *et al.* 1989: 48, fig. 4.20).

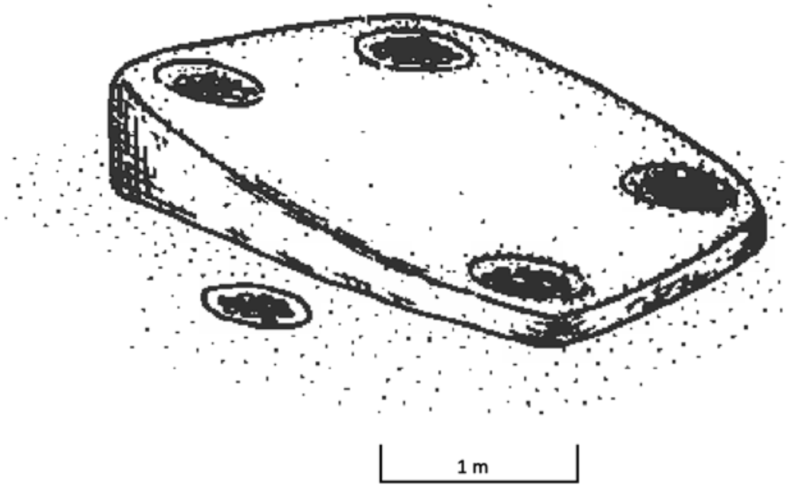


Fig. 4. Achileion. Altar from phase IIIb (after GIMBUTAS *et al.* 1989: 49, fig. 4.23/2).

Fig. 5. Tumba Madžari. System of "tubes" researched in 2008
(after KANZUROVA, ZDRAVKOVSKI 2009: 146, fig. 13).

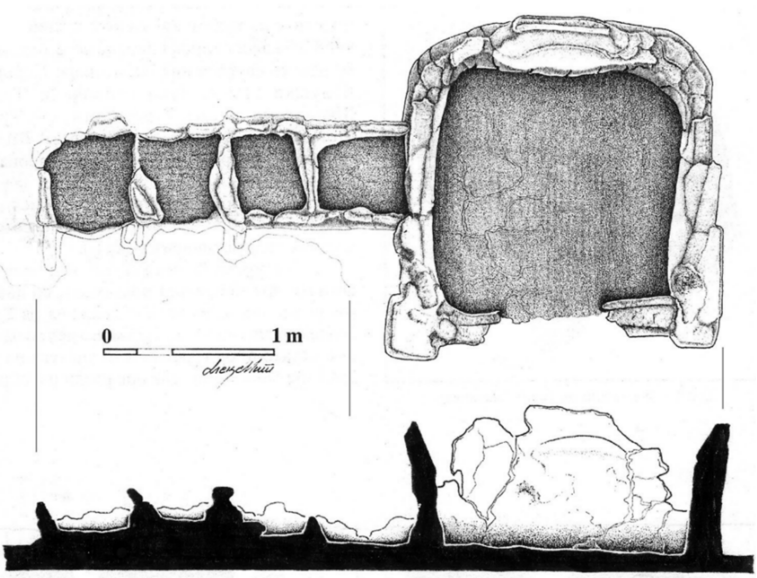


Fig. 6. Vrbjanska Čuka. The rectangular containers – drawing
(after NAUMOV 2008: 16, pl. 2).

Fig. 7. Vrbjanska Čuka. Photo of the altars reconstructed in the museum (Makedonski kulturno 2008: 37).

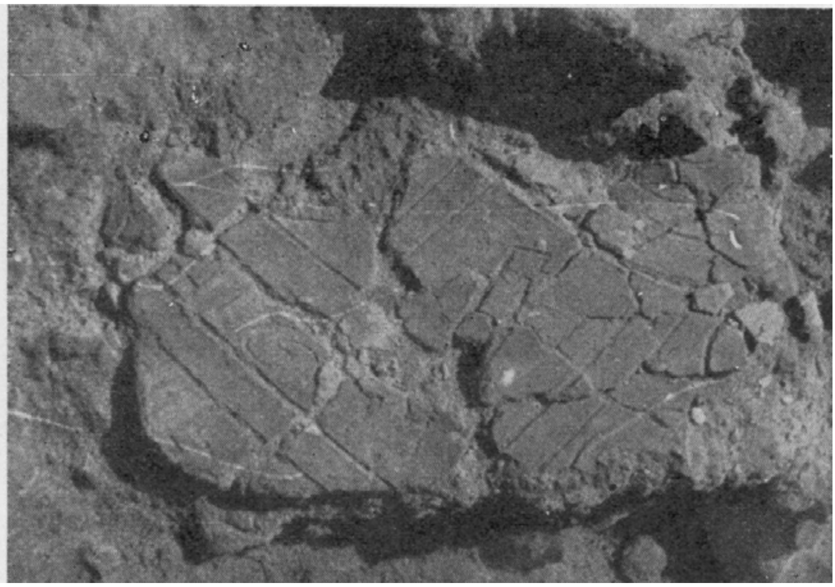


Fig. 8. Kormadin. Fragments of decorated adobe from the central table (the altar) of Sanctuary 1 (after JOVANOVIČ, GLISIĆ 1961: 134, fig. 38).

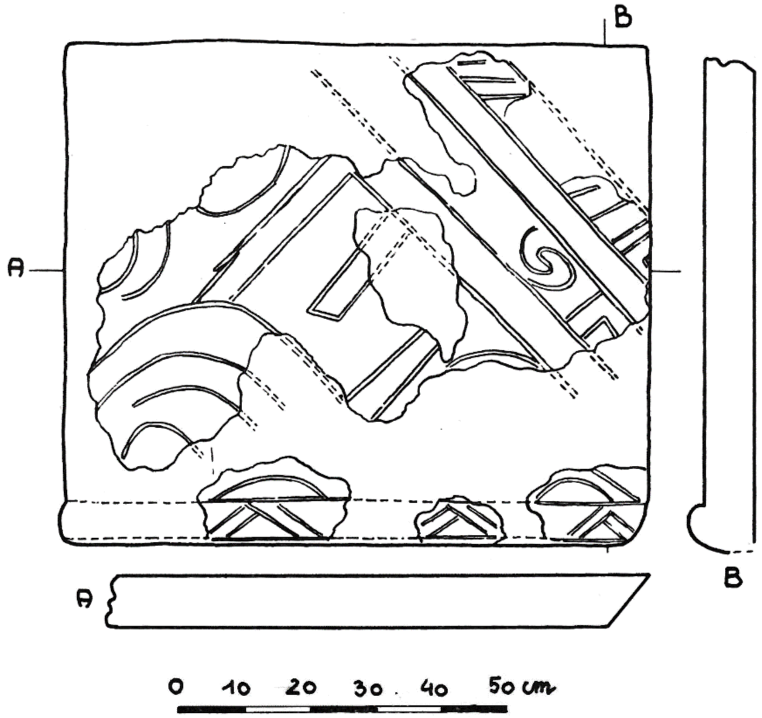


Fig. 9. Kormadin. Fragments of decorated adobe from the central table (the altar) of Sanctuary 1 (after JOVANOVIČ, GLISIĆ 1961: 135, fig. 40).

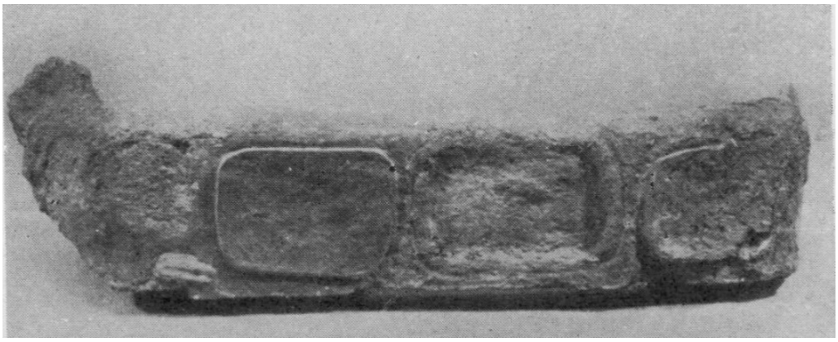


Fig. 10. Kormadin. Decorated fragment of the sacrificial altar from Sanctuary 1 (after JOVANOVIĆ, GLISIĆ 1961: 131, fig. 35).

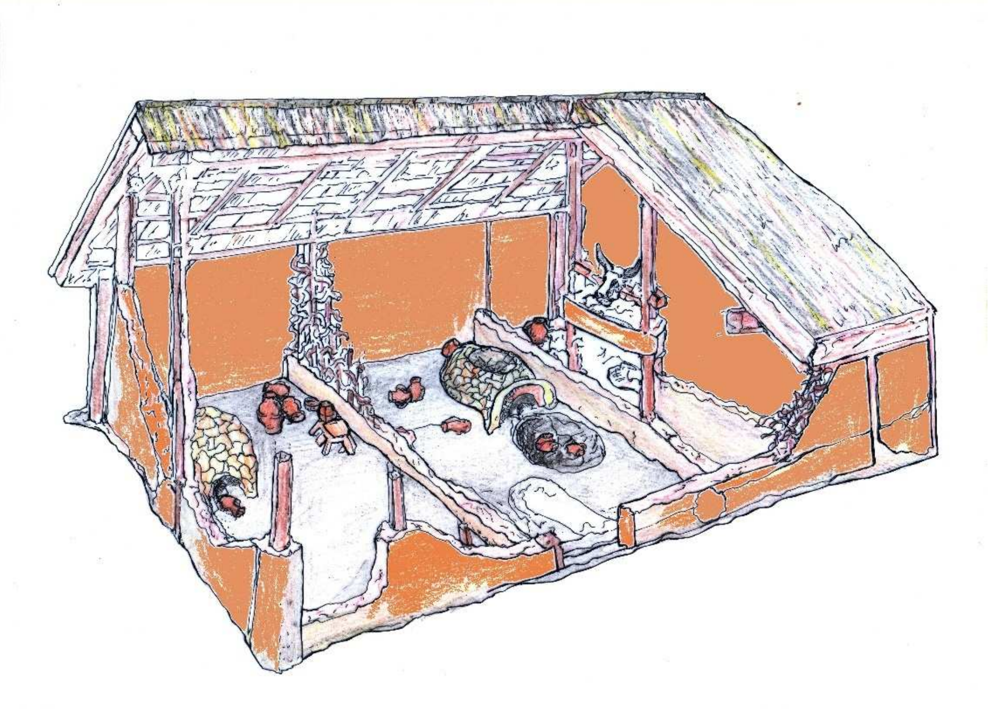


Fig. 11. Kormadin. Sanctuary 2 (House 2)
(drawing by Eva Delczeg, apud JOVANOVIĆ 1991).

Fig. 12. Crkvine. The box-altar in Building 1/2008
(after CRNOBRNJA *et al.* 2009: 16, fig. 12).

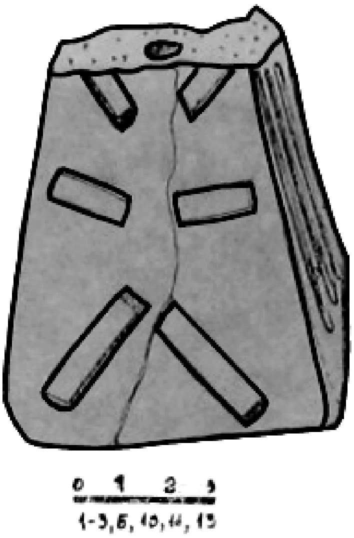


Fig. 13. Zăuan. Prismatic altar (after LAZAROVICI GH. 1988: 47, fig. 2/1).

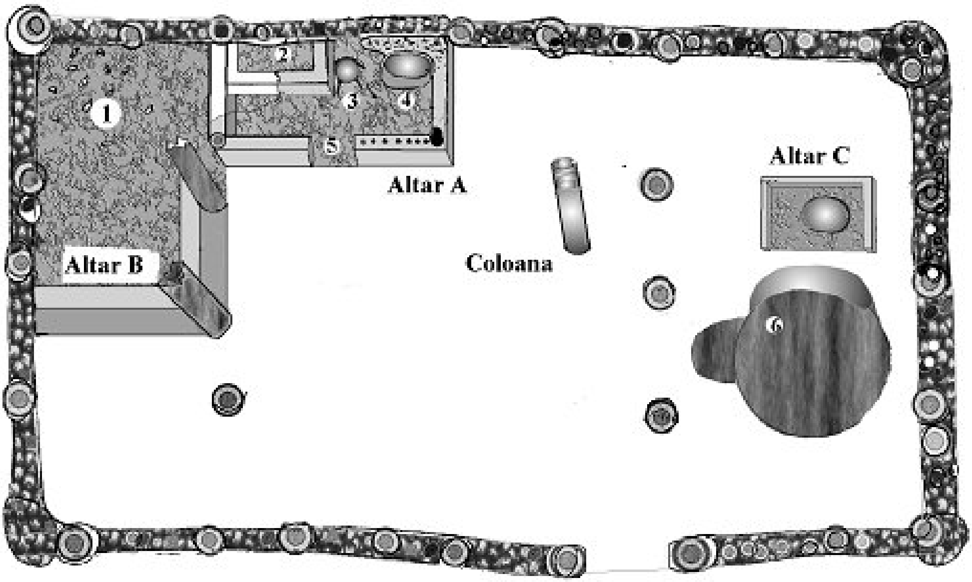


Fig. 14. Parța. Temple 1 – plan of the building
(after LAZAROVICI GH. *et al.* 2001: 204, fig. 165).

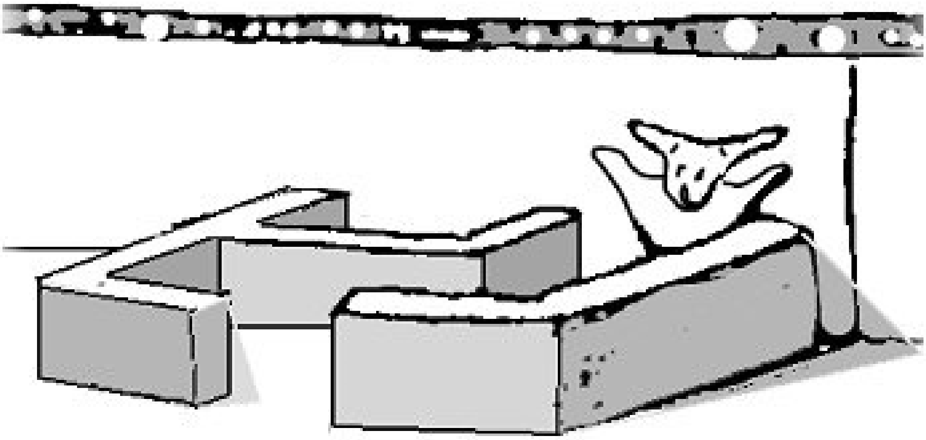


Fig. 15. Parța. Temple 1. Altar A, graphic reconstruction and plan
(after LAZAROVICI GH. *et al.* 2001: 207, fig. 168a).

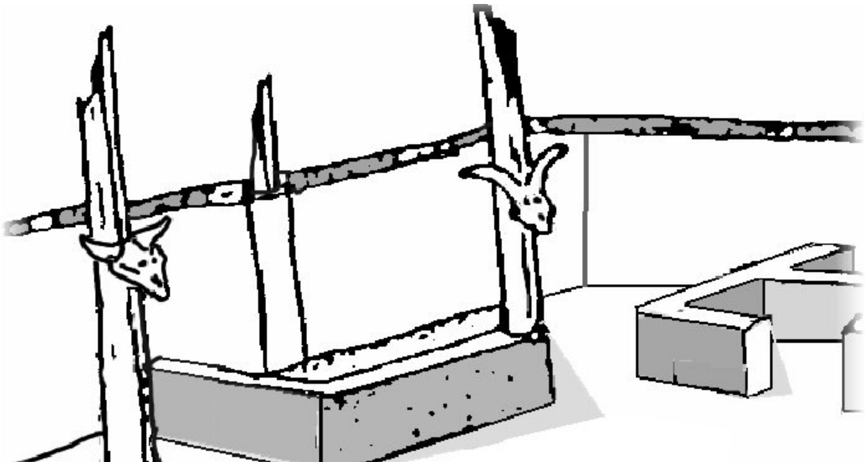


Fig. 16. Parța. Temple 1, Altar B – graphic reconstruction
(after LAZAROVICI GH. *et al.* 2001: 208, fig. 168b).

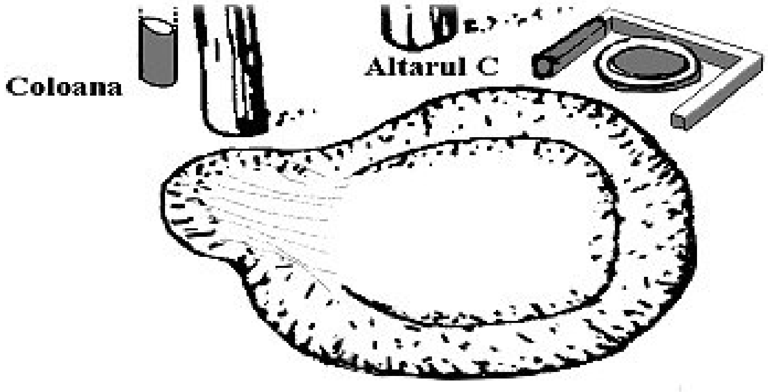


Fig. 17. Parța. Temple 1, Altar C – graphic reconstruction
(after LAZAROVICI GH. *et al.* 2001: 211, fig. 170).

Fig. 18. Parța. Temple 2. The reconstruction of the double statue: The Great Mother
and the Bull (reconstruction in Muzeul Banatului, Timişoara).

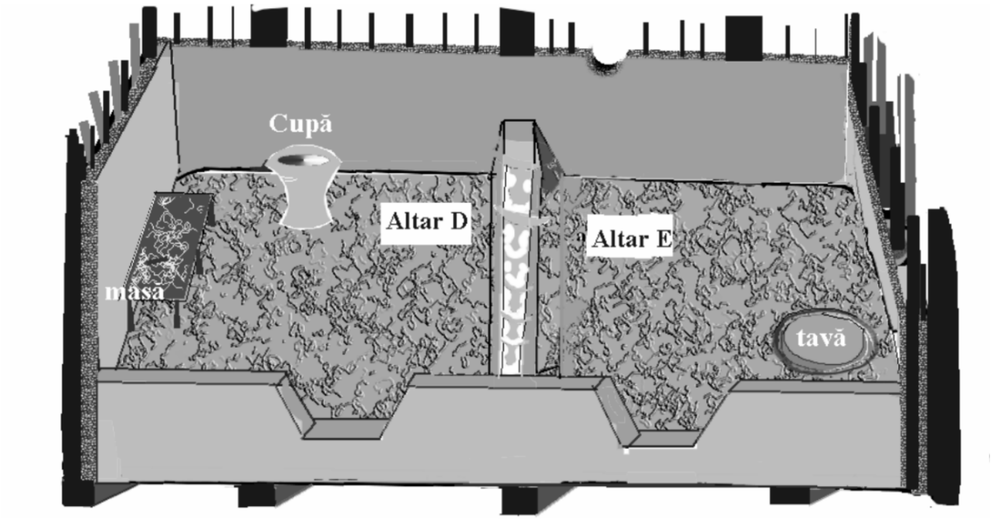


Fig. 19. Parța. Altars D and E in Temple 2 (after LAZAROVICI GH. *et al.* 2001: 231, fig. 187).

Fig. 20. Liubcova. Table legs
(after LAZAROVICI C.-M., LAZAROVICI GH. 2006: 507, fig. IVa.34).

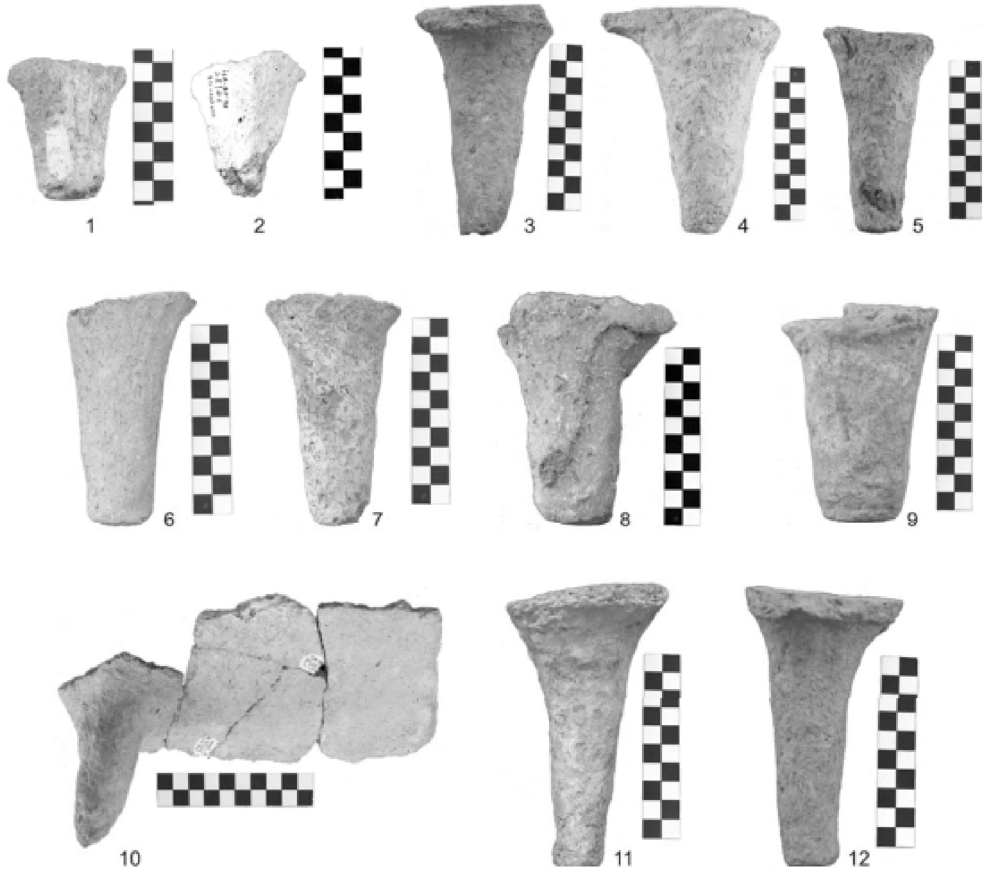


Fig. 21. Isaiia. Fragments of tables and table legs from the sanctuary
(after URSULESCU, TENCARIU 2006: 56, fig. 16).

Fig. 22. Isaiia. Altar table from the sanctuary, restored (H. 17-19 cm)
(after URSULESCU, TENCARIU 2006: 123, fig. 40).

Fig. 23. Târgu Frumos. Altar from L11 (after URSULESCU, TENCARIU 2006: pl. X).

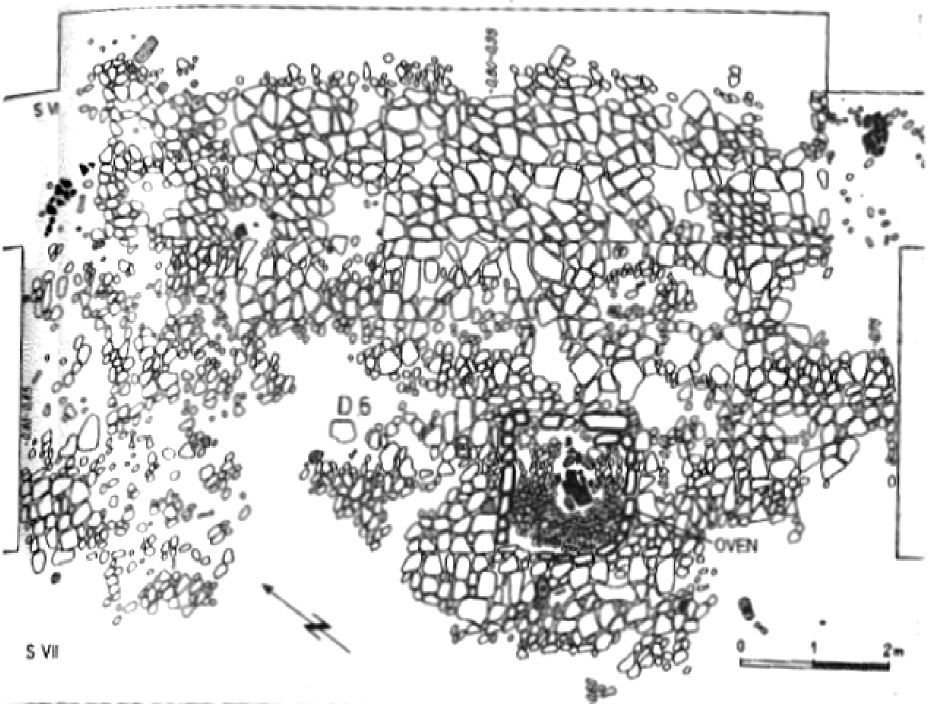


Fig. 24. Târpeşti. Dwelling 6 – plan (after MARINESCU-BÎLCU 1981: fig. 37/1).

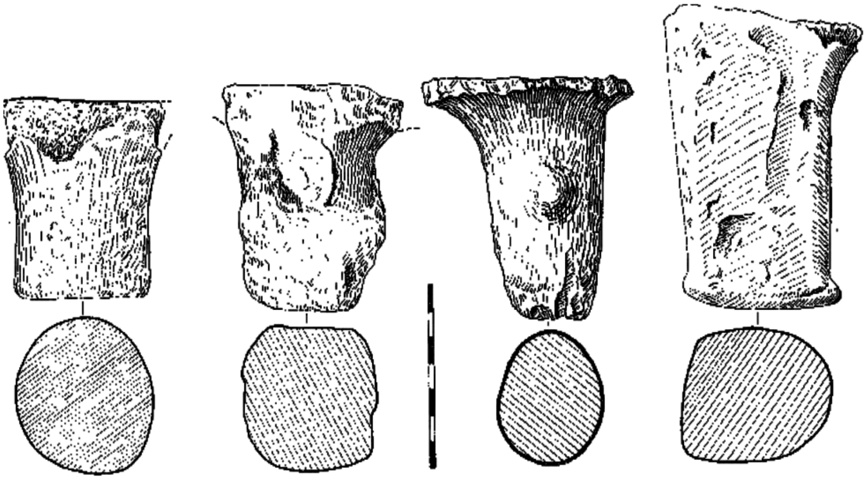


Fig. 25. Târpeşti. Table legs (after MARINESCU-BÎLCU 1981: fig. 115/9-10).

Fig. 26. Ghirbom. Remains of the dwelling and the altar (after ALDEA 1974: fig. 1).

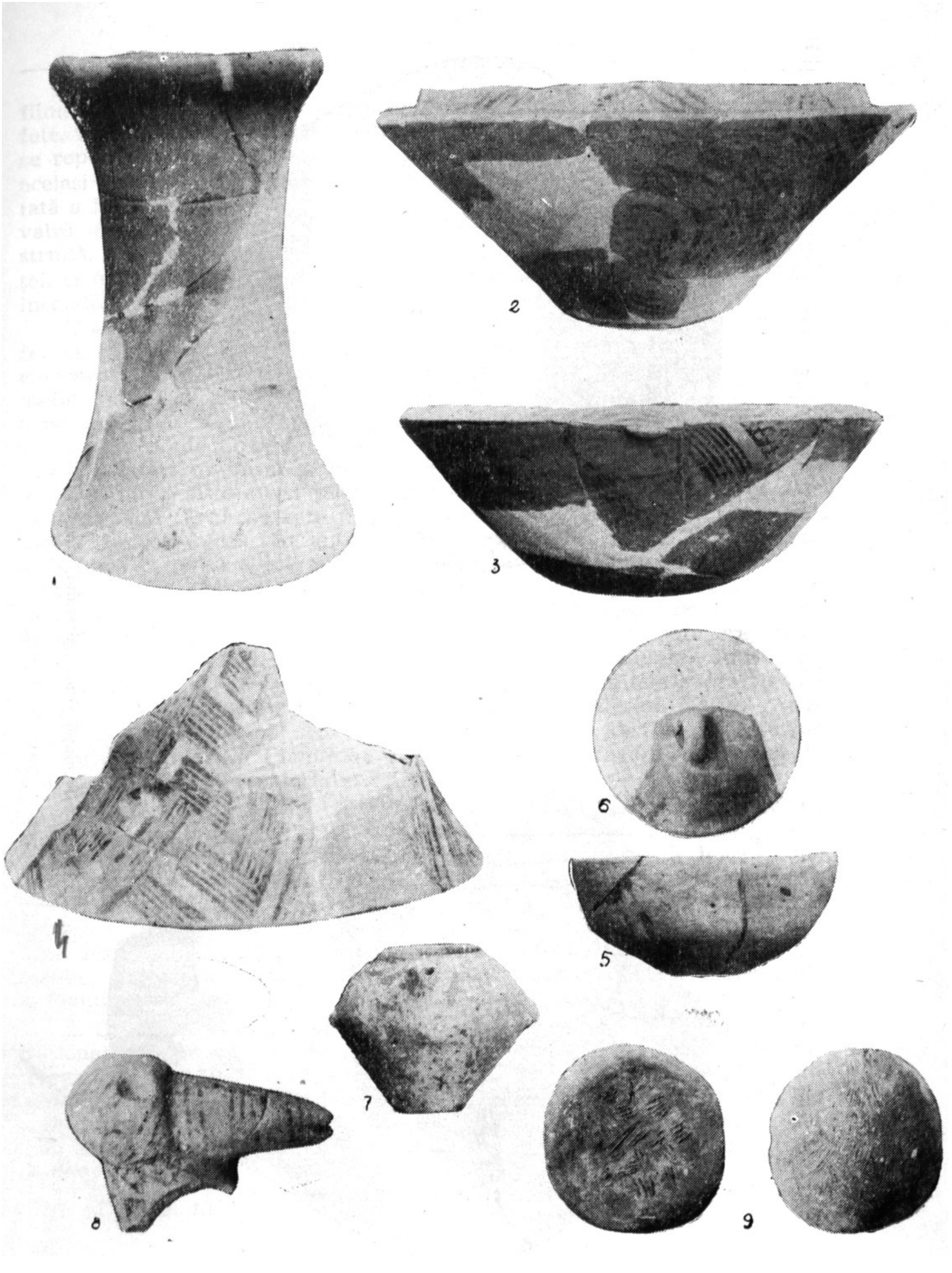


Fig. 27. Ghirbom. Part of the inventory next to the altar (after ALDEA 1974: fig. 2).

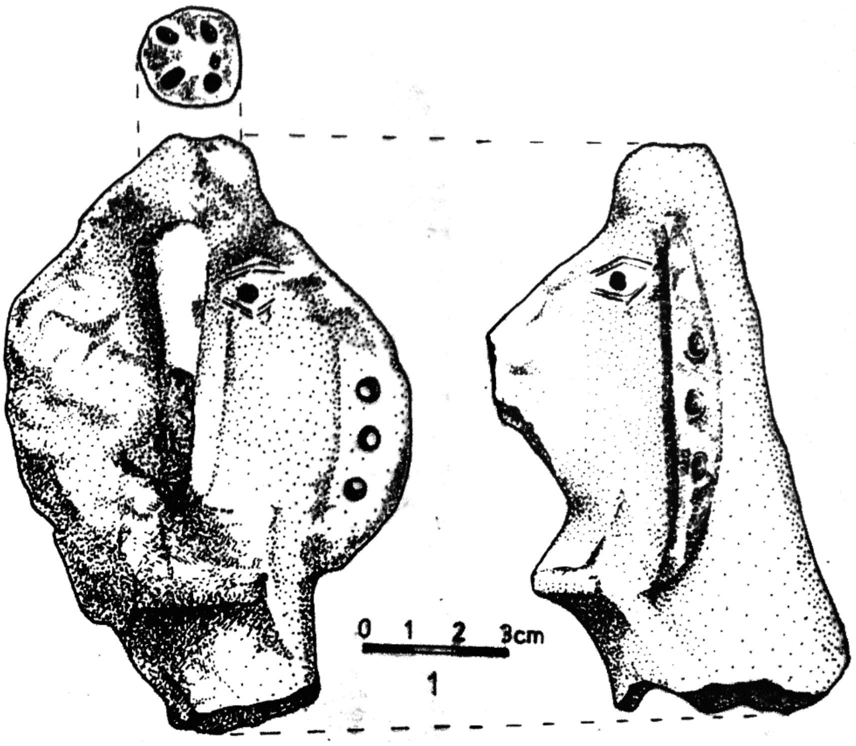


Fig. 28. Hârşova. Head of the monumental idol (after HAŞOTTI 1997: fig. 107/1).

Fig. 29. Hârşova. Altar 2 from sanctuary L.11 (after HAŞOTTI 1997: fig. 80).

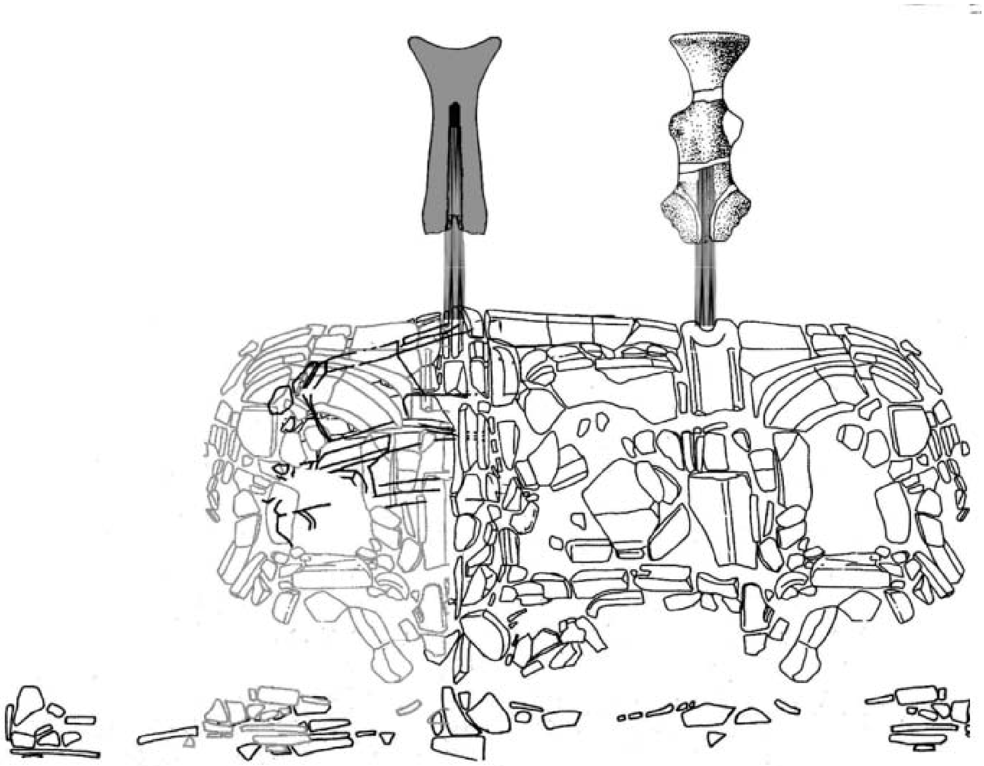
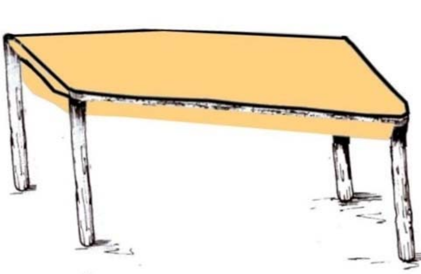
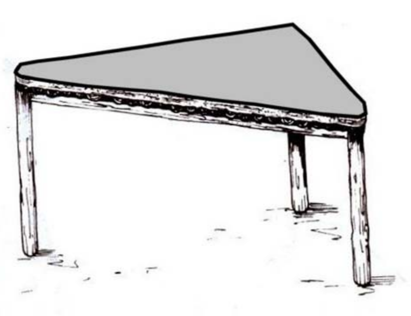


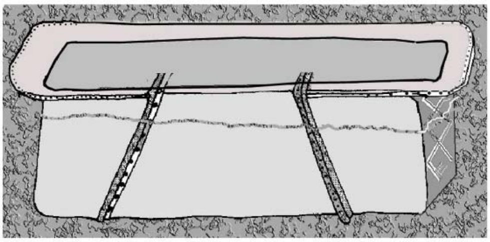
Fig. 30. Truşeşti. Graphic reconstruction of the altar from L60
(after LAZAROVICI C.-M. *et al.* 2009: 60, fig. 5/b).



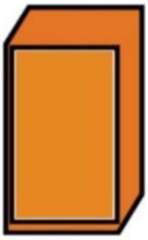
A1



A2

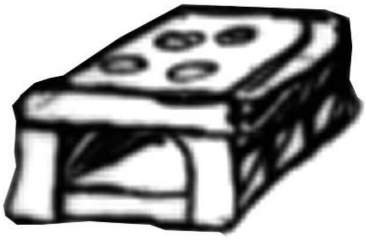


A3



A4

A5



A6

Fig. 31. Type A altar-table.

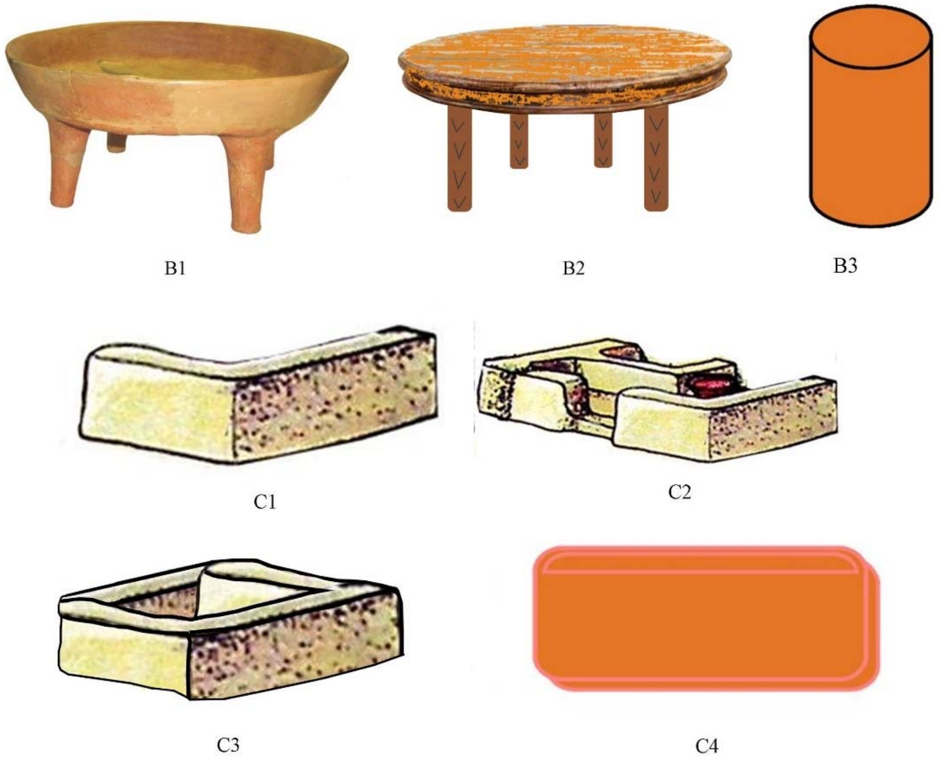


Fig. 32. Type B and C altar-tables.

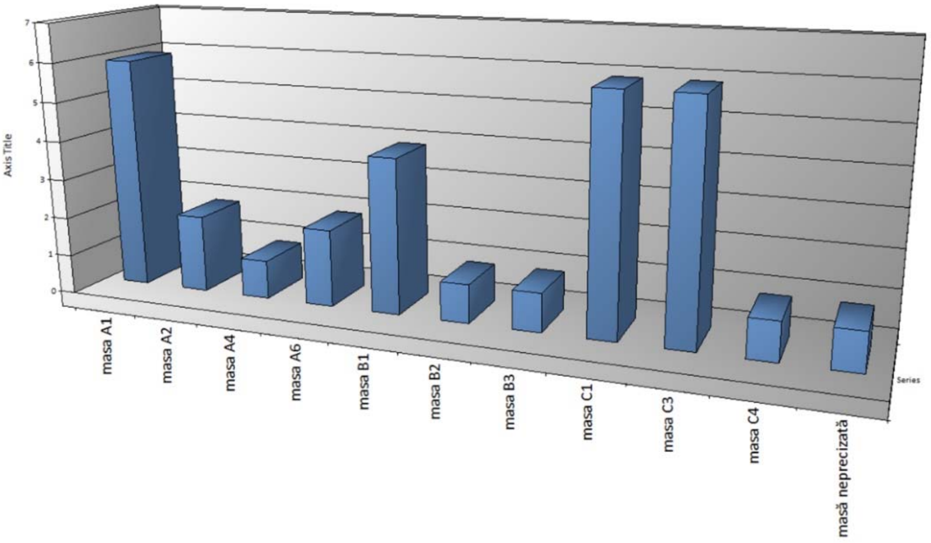


Fig. 33. The frequency of use of the altar-tables.

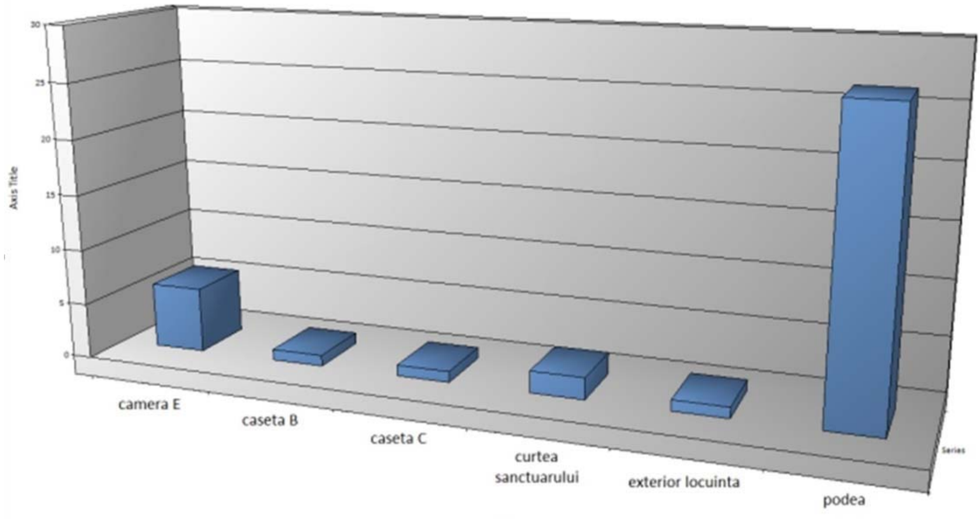


Fig. 34. The preference for placing the altar-tables.

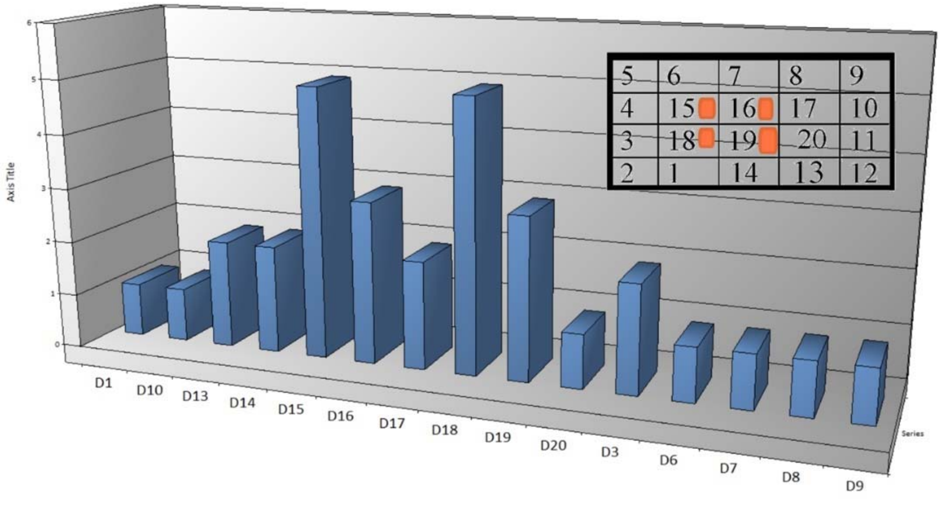


Fig. 35. The location of the altar-tables inside the rectangular buildings.

CUCUTENI – LA CIVILISATION DE PETITES FORTIFICATIONS („CETĂŢUI”)

Nicolae URSULESCU[1]

Résumé: La forme typique des habitats de la culture énéolithique Cucuteni (Ve-IVe millénaires B. C.) est représentée par une proéminence de terrasse ou de plateau, bien délimitée, par des pentes abruptes, à trois côtés et ayant seulement à la quatrième marge (mais barrée par des fossés de défense) le lien avec le terrain dont elle s'est détachée. Les géographes dénomment ce type de proéminence *éperon du méandre* et les archéologues *éperon barré*. Les Roumains désignent fréquemment cette forme saillante de relief, où se retrouve aussi l'intervention anthropique (mais, sans l'utilisation des murs), par le toponyme „Cetăţuie” (=petite forteresse).
On fait une synthèse concernant le rapport entre ce toponyme et la présence des habitats Cucuteni dans ces lieux. On consigne 53 de telles situations, la plupart étant de la phase A de cette culture, ensuite de la phase B et moins de la phase intermédiaire A-B (tableau 1). Le toponyme *Cetăţuia* est utilisé surtout pour les sites où se trouvent des vestiges cucuténiens et plus rare pour les habitats fortifiés de périodes ultérieures. Pour les dernières on utilise, de règle, autres dénominations, qui indiquent des travaux de fortifications plus amples, mais les sites sont de même du type *éperon du méandre*, tout comme les *„cetăţui*”. Parfois, au-dessous les fortifications plus nouvelles apparaissent aussi des vestiges Cucuteni (tableau 2), mais la population locale a dénommé les respectifs lieux en fonction de l’aspect des fortifications plus évoluées.
Cette réalité historique et de mental collectif, conservée dans la toponymie, indique le fait que sur le territoire de la Moldavie (entre les Carpates Orientaux et la rivière de Prut), les communautés Cucuteni aient été la première population qui a aménagé des habitats fortifiés. On prouve par cette voie aussi que la population cucutenienne eût réalisé, dans le cadre du système énéolithique d’organisation, le saut vers un type supérieur de civilisation, sur le point de passer à un mode de vie urbain naissant.
Mots clefs: *énéolithique, culture Cucuteni, fortifications, toponymie, Cetăţuia (petite cité)*

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Materiality and Identity in Pre- and Protohistoric Europe
Homage to Cornelia-Magda Lazarovici

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Les recherches concernant la culture énéolithique Cucuteni (Ve-IVe millénaires B.C.)[2], déroulées au cours de plus de 130 ans ont clairement montré que la forme typique et la plus répandue des lieux choisis par les communautés de cette culture pour la fondation des habitats est la proéminence d'une terrasse ou d'un plateau, bien définie, à travers des pentes abruptes sur trois côtés (en conséquence de l'action durable de certains cours d'eau) et en ne gardant qu'à la quatrième marge le lien avec la terre dont elle s'est séparée[3] (fig. 1-4). Parfois, sur ce quatrième côté, on peut remarquer un faible ensellement. Dans les cas où des fouilles archéologiques systématiques (ou, plus récemment, des prospection magnétométrique et des observations d'imagerie satellitaire) ont été effectuées, les traces des fossés de défense ont été mis en relief dans ces zones[4]; ceux-ci ont délimité et/ou défendu l'habitat du côté le plus exposé, contre les dangers possibles.

Dans la terminologie géographique, ce type de proéminence du terrain est désignée par le terme *éperon du méandre*[5]; la présence des fossés d'origine humaine justifie l'utilisation, dans la littérature archéologique, du terme *éperon barré* – plus approprié et correct que celui de *museau d'une colline*, utilisé par certains archéologues, en particulier du passé. La population de toutes les provinces roumaines le plus couramment utilise, afin de dénommer cette forme saillie de relief, où se retrouve aussi l'intervention anthropique (mais, généralement, sans l'utilisation de murs), le toponyme „Cetăţuie" (=petite forteresse), avec différentes variantes[6]. Inversement, lorsqu'il s'agisse des traces de fortification plus complexes (des murs, de hautes vallums, adjacents aux fossés) qui, en règle, datent de périodes plus récentes (l'Âge des Métaux ou Moyen Âge), ont été donnés autre noms, tels que *Cetate* (=Cité), *Horodişte/Grădişte* (terme d'origine slave, indiquant une colline, où a été une cité), *Zamca* (terme d'origine ukrainienne, indiquant un lieu fortifié), *Ocop/Ocup* (terme d'origine polonaise, indiquant la présence des fossés), etc.[7]

À la fin du XIXème siècle, sur le territoire de l'ancien Royaume de Roumanie ont été mentionnés 85 toponymes *Cetăţuia*[8], la grande majorité se référant à des collines proéminentes; seulement dans quelques cas, le nom de *Cetăţuia*, accordé à une colline, s'est étendu à quelques unités géographiques proches (localités, ruisseaux, forêts). Malheureusement, à ce temps-là, quand l'archéologie se trouvait même à ses commencements, l'existence de vestiges historiques dans le cadre de ces forteresses anciennes a été rarement mentionne; seulement dans certains cas on a enregistré des légendes locales, inspirées par les combats, dans la période médiévale, avec les Tatars, les Allemands/

[2] MANTU 1998.

[3] MONAH, CUCOŞ 1985: 41-43.

[4] FLORESCU A. C. 1966; 1969.

[5] POSEA 1986: 217; ROMANESCU, JIGĂU 2008: 186.

[6] *Cetăţeaua*, *Cetăţele*, *Cetăţelul*, etc. (IORDAN 1963: 306-307).

[7] IORDAN 1963: 306-308, 311, 312, 536.

[8] MDGR, II, 1899: 346-351.

Habsbourgs ou les Turcs. En se référant uniquement au territoire compris dans l'aire de la culture Cucuteni entre les Carpates et le Prut – dans lequel nous avons inclus, en dehors de celles huit départements administratifs actuels de la Moldavie (Botoşani, Suceava, Iaşi, Neamţ, Vaslui, Bacău, Galaţi, Vrancea), le département de Buzău aussi[9] – vers 1900 étaient connus ici 43 noms de lieux *Cetăţuia*, qui indiquaient des formes de hauts et proéminents terrains[10] (je ne l'ai pas inclus dans ce numéro la répétition de ce nom de lieu dans le cas des cours d'eau, des forêts ou des propriétés foncières adjacentes à des collines appelées *Cetăţuia*). Mais, après plus de cent ans de l'enregistrement de ces toponymes évocateurs des sites archéologiques et historiques, dans beaucoup de ces endroits n'ont pas été entrepris des fouilles ou du moins des recherches de surface. Nous ne pouvons pas exclure la possibilité que, entre-temps, les habitants de l'endroit aient changé le nom de certains de ces toponymes et les respectifs lieux sont à présent connus sous un autre nom[11]. Donc, de l'ensemble des „cetăţui" mentionnées en 1900, nous avons trouvé des informations dans la littérature archéologique seulement pour 20 d'entre eux, en ce qui concerne l'existence des vestiges cucuténiens, soit comme unique habitat ou comme la première occupation du terrain[12]. Dans autres neuf cas, l'habitat aux lieux avec le nom *Cetăţuia* commence plus tard : dans l'Âge du Bronze[13] et surtout dans la première période de l'Âge du Fer[14] et, plus rare, au Moyen Âge (d'habitude, dans le Haut Moyen Âge)[15].

Cette première analyse statistique, même si elle a été faite sur un petit échantillon, montre cependant qu'il y a un lien entre les lieux choisis par les communautés Cucuteni

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[9] Nous avons considéré dans ce cas la présence sur le territoire de ce département (comme dans le sud de la Moldavie) des habitats appartenant à l'aspect culturel Stoicani-Aldeni (avec des éléments mixtes des cultures énéolithiques Gumelniţa de Valachie et Precucuteni-Cucuteni de Moldavie), ainsi que la présence des sites des derniers étapes de la phase Cucuteni B (l'aspect Monteoru).

[10] MDGR, II, 1899: 346-351.

[11] À cet égard, nous mentionnons que les indications topographiques de MDGR (Grand Dictionnaire Géographique de la Roumanie, t. I-V) sont extrêmement vagues, de sorte qu'en cas de changement d'un toponyme, son identification avec l'ancien nom est très difficile.

[12] Ceux-ci sont situés dans les localités (la mention est faite après la division administrative actuelle) : Frumoasa, com. de Balcani; Gura Văii (ancien nom: Râpile), com. de G.V. (avec au moins deux *Cetăţui*); Mileştii de Jos, com. de Parincea; ville de Moineşti, quartier Văsieşti (ancien village); municipe de Oneşti, quartier Malu (ancien village); Slobozia, municipe de Oneşti; Vâlcele, com. Corbasca (toutes les huits dans le dép. de Bacău); Baranca (incert), com. de Hudeşti (dép. de Botoşani); Cucuteni, com. de Cucuteni; municipe de Iaşi (la monastère de Cetăţuia); Oboroceni, com. de Heleşteni; Răducăneni, quartier Bazga (ancien village), com. de Răducăneni; Stroeşti, com. de Todireşti; Vascani, com. de Ruginoasa (toutes les six dans le dép. de Iaşi); Bodeşti, com. de Bodeşti; Văleni, municipe de Piatra Neamţ; Văleni, com. de Boteşti (toutes les trois dans le dép. de Neamţ); Baia, com. de Baia (dép. de Suceava); Corodeşti, com. de Ghergheşti (dép. de Vaslui); Sărata Monteoru, com. de Merei (dép. de Buzău).

[13] Poiana, com. de Nicoreşti, dép. de Galaţi; Siliştea, com. de Români, dép. de Neamţ.

[14] Corcioveni et Cosiţeni, com. de Brăhăşeşti, dép. de Galaţi; Moşna, com. de Moşna, dép. de Iaşi; Arsura, com. d'Arsura; Chirceşti, com. de Micleşti; Vutcani, com. de Vutcani (toutes les trois dans le dép. de Vaslui) et, probablement, Huşi, com. de Preuteşti, dép. de Suceava.

[15] Hudeşti, com. de Hudeşti, dép. de Botoşani.

pour l'établissement de leurs habitats et les noms donnés par les habitants actuels à ces formes de relief, à savoir au moins ⅔ des cas dans lequel apparaît le nom *Cetăţuia* il est possible de trouver une habitat du type Cucuteni. Dans l'ensemble, il s'agit de places dominantes, bien individualisées (et défendues) naturellement, mais lesquelles on observe, aujourd'hui encore, une certaine intervention anthropique, par le creusement d'une tranchée (éventuellement, accompagnée d'un vallum en terre) sur la partie la plus exposée du terrain. Il est significatif que même le site éponyme (fig. 1) de la civilisation Cucuteni eût – lorsque sa découverte (1884) – le nom *Cetăţuia*, en attirant ainsi (par sa dénomination aussi) l'attention sur elle[16]. La forme de diminutif du toponyme *Cetăţuia* (petite cité) vise à souligner que ce n'est pas une cité dans le vrai sens du mot, mais d'un lieu raffermi, brièvement fortifié par rapport à une cité entourée de tous côtés des œuvres de fortification (qu'ils soient en pierre ou même en terre) (fig. 1-3).

En suivant chronologiquement l'émergence et l'évolution des fortifications avec le nom *Cetăţuia*, on observe, à partir de la documentation présente, qu'elles apparaissent, à l'est des Carpates, depuis le début de la période énéolithique, c'est-à-dire dans le même temps avec l'horizon Precucuteni[17], qui ouvre l'évolution de vaste et de longue durée complexe culturel Precucuteni-Cucuteni[18]. En suivant la présence du nom *Cetăţuia* (que nous avons trouvé 53 fois dans le territoire étudié: tableau 1), selon les trois phases principales de la culture Cucuteni, on rencontre 35 fois pour les habitats de la phase A, neuf fois pour les sites de la phase A-B, 18 fois à la phase B, et dans dix cas l'état des fragments céramiques (collectées à travers des investigation de surface) n'a pas permis la détermination de la phase. Dans 13 cas sont présents sur le même site des matériaux de deux phases (7 cas) ou même trois phases (6 cas). La phase A prévaut nettement, non seulement numériquement, mais aussi en ce qui concerne les apparitions uniques dans une site (19 fois), par rapport de neuf présences de la phase B et rien pour la phase A-B. Malheureusement, les fouilles ont été effectuées seulement en 21 des 53 sites avec le nom *Cetăţuia*, ainsi que la détermination des matériaux ramassés seulement de la surface peut donner lieu à des incertitudes.

Cependant, en général, cette statistique donne une image similaire à celle résultée de répertoires des habitats cucuténiens. Ainsi, le répertoire des sites archéologiques pour toute la Moldavie, publié en 1970, montre 148 habitats pour la phase A, seulement 23 pour A-B et 127 pour la dernière phase, alors que pour 130 sites n'ait pas pu faire l'encadrement dans une phase exacte[19]. Le répertoire publié en 1985, du total de 1151 sites Cucuteni de

[16] BELDICEANU 1885; BURADA 1901.

[17] Comme, par ex., à Costişa, dép. de Neamţ (EL SUSI 2009; GARVĂN 2013: 29-30).

[18] Entre Nistre et le Dniepr, cet ensemble culturel a connu une évolution spécifique, sous la forme de l'aspect Tripolie/Trypillia.

[19] *AŞEZĂRI*: 30-37.

Roumanie, 522 sont de la phase A, 124 de A-B, 308 de B, et 31 non déterminé que la phase[20]. Le premier répertoire archéologique du département de Botoşani cite 280 sites avec des traces cucuteniennes (sans distribution par des phases)[21], tandis que le second mentionne 244 sites (81 pour la phase A, 68 pour A-B et 95 à B) [22], mais ne se souvient pas le nombre de sites Cucuteni indéterminés comme phase. Le répertoire archéologique du département de Iaşi cite 472 de sites Cucuteni (128 en tant que phase incertaine): 256 de la phase A, 22 de A-B et 167 de B[23]. Le répertoire archéologique du département de Vaslui mentionné 168 de sites Cucuteni, dont un cent de la phase A, 14 de l'A-B, seulement quatre de la phase B et 50 non déterminé[24]. Dans le département de Neamţ, il y a 87 agglomérations de la phase Cucuteni A, 34 de la phase A-B, 78 de la phase B et 108 ne peuvent être incluses dans une certaine phase[25].

Ainsi, les statistiques de la culture Cucuteni, au-delà de quelques incohérences de calcul, indiquent une prédominance des agglomérations Cucuteni A (à l'exception du dép. de Botoşani, où la phase B est la première), suivies numériquement par les habitats de la phase B (sauf l'exception auparavant citée, ainsi que le dép. de Vaslui, où celle-ci est situé sur la dernière place, avec seulement quatre habitats connus) et ceux de la phase A-B (qui ont un nombre un peu élevés dans le dép. de Botoşani); enfin, un nombre assez grand de sites n'a pas pu être encadré dans l'une des phases de la culture de Cucuteni, en raison du matériau céramique peu concluant. Ces données confirment généralement la situation de la distribution des noms *Cetăţuia* à des phases de la culture Cucuteni sur le territoire entre les Carpates Orientaux et la rivière de Prut.

En même temps, on connaît d'agglomérations de la culture Cucuteni situées toujours dans des places hautes et proéminentes, mais portant d'autres noms, qui indiquent aussi des fortifications, mais d'un aspect plus imposant (avec des fossés profondes et des hautes vallums, parfois des murs), spécifiques à des périodes ultérieures (en commençant généralement de Hallstatt jusqu'au Moyen Âge). Dans ces cas, les anciennes habitats et fortifications des communautés Cucuteni (qui auraient justifié le nom *Cetăţuia*) ont été couverts ou réutilisés/amplifiés par les nouveaux occupants, de sorte que la population actuelle leur a donné des noms spécifiques pour les fortifications plus élevées. Dans le territoire considéré, nous avons trouvé 18 tels noms (tableau 2): *Cetate*[26] (4), *Palanca*[27] (1),

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[20] MONAH, CUCOŞ 1985: 177-182. Les calculs y présentés devraient être réévalués, parce qu'il y a des incohérences assez importantes entre le total et les chiffres (y compris les pourcentages) mentionnés pour des phases.

[21] RAJB 1976: 380-381.

[22] RAJB 2013: 6.

[23] RAJI II, 1985: 489, 502-503 et la carte no. 4.

[24] RAJV, 1980: 387-388.

[25] CIUBOTARU 2007: 245.

[26] Cité ; citadelle.

[27] Palissade.

Redută[28] (1), *Şanţuri*[29] (4), *Zamca*[30] (4), *Ocop/Ocup*[31] (2), Horodişte[32] (2), *Ruina*[33] (1), *Tabăra*[34] (1); dans deux cas, la population locale à utilisé pour chaque site, deux de ces désignations, avec sens proche (Ocop/Zamca Mare ; Horodişte/Zamca). Dans ces endroits, on trouve, comme dans le cas des *cetăţui*, de vestiges des trois phases de la culture Cucuteni: dix habitats datent de la première phase, l'un de la phase A-B et six de la phase B; dans un cas, on a constaté la superposition des vestiges appartenant à les trois phases. Il doit observer qu'aussi dans de telles situations la différence numérique des occurrences entre les trois phases s'est maintienne. Ainsi, ces noms de fortifications peuvent aussi être liés aux habitats du type Cucuteni, même si les vestiges cucuténiens étaient généralement bien perturbés par les nouvelles agglomérations.

Après ces considérations statistiques, nous voulons faire une brève analyse historique sur l'utilisation actuelle des toponymes indiquant l'existence des fortifications aux habitats de la culture Cucuteni. En général, l'action de la population locale de dénomination de certains lieux avec des toponymes de caractère historique n'est pas aléatoire, mais est soit dans la mémoire de quelques événements historiques ou visant l'existence de certains vestiges du passé, encore bien visibles aujourd'hui, qui indiquent nettement qu'autrefois a vécu ici une communauté humaine. Si d'habitude le toponyme le plus fréquente pour cette catégorie est celui de *Selişte* (= le lieu où a été autrefois un village), l'utilisation des noms de lieux indiquant l'existence d'anciennes habitats fortifiées s'est fait en connaissance de cause, afin de distinguer un habitat ordinaire (un quelque village) par rapport de l'autre avec un caractère spécial, où les gens du passé ont construit aussi un système de défense. Habituellement, ces noms de lieux incombent aussi des traits géographiques exceptionnelles: tandis qu'un site du type *selişte* se trouve à basse altitude, sans des possibilités de défense naturelle, les *cetăţui* s'individualisent au regard du reste de terrain, en étant inaccessibles en raison de fortes pentes et de la très faible connexion avec le territoire d'où ils se sont détachés. De plus, dans cette zone de contact étaient clairement visibles les traces des fossés et parfois des vallums, ce qui restreignaient – aussi aux temps récents – l'accès vers l'intérieur d'une *Cetăţuia*. Même si au fur et à mesure, par les dépôts du sol et par des activités humaines, les éléments de fortification (bien visibles jadis) se sont estompés (même jusqu'à la disparition), cependant les anciens noms de lieux ont été conservés.

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[28] Redoute.

[29] Fossés, tranchées.

[30] Terme d'origine ukrainienne, indiquant un lieu fortifié.

[31] Terme d'origine polonaise, indiquant la présence des fossés.

[32] Terme d'origine slave, indiquant une colline, où a été une cité.

[33] Ruine.

[34] Camp, campement.

Cette réalité historique et de mentalité collective, préservée par la toponymie[35], nous permet d'affirmer que, sur le territoire de la Moldavie, les communautés Cucuteni ouvrent la série de populations qui, au cours des millénaires, ont spécialement organisé des campements fortifiés, avec tout ce qui de telles réalisations exceptionnelles dans le domaine de l'habitat signifient du point de vue social, économique et spirituel. Par cette voie aussi on prouvé que la population cucutenienne a réalisé, dans le système organisationnel de l'Enéolithique[36], le saut vers une civilisation supérieure, avec une hiérarchie bien définie, sur le point de passer à un mode de vie urbain naissant.

Tableau 1. Association du toponyme *Cetăţuia* avec des vestiges du type Cucuteni

Dép. de BACĂU

No.	Localité	Commune	Phase	Autres périodes	Bibliographie	Observ.
1	Brad	Negri	A	Ha, LT	Ursachi 1991; 2012.	
2	Cleja	Cleja	-	Bz	Căpitanu 1982, 142.	
3	Cetăţuia	Strugari	-		inédite	
4	Frumoasa- *Cetăţuia de pe Tazlău*	Balcani	A		Monah, Cucoş, 96, no. 428.	A la limite avec le dép. de Neamţ
5	Gura Văii (nom anc.: Râpile) – *Cetăţuia Podului*	Gura Văii	A	Bz, LT	MDGR, II, 351; Şandru 1961, 221; Buzdugan 1968, 107; *Aşezări*, 366; Monah, Cucoş, 102, no. 485; Vasiliu, 109.	Nom actuel: *Mirăuţă*, dans l'anc. village Pătrăşcani.
	Malu					v. Oneşti
6	Mărgineni	Mărgineni	A, A-B, B		Monah 1979; Monah, Cucoş, 117, no. 639.	
7.	Mileştii de Jos	Parincea	-	Bz	MDGR, II, 347; Căpitanu 1982, 149; Monah, Cucoş, 118, no. 651.	fortification
8	Moineşti-quartier Văsieşti	Ville de Moineşti	-		MDGR, II, 347; Monah, Cucoş, 120, no. 676.	Nom actuel: Colline de Văsieşti
9.	Oneşti-quartier Malu	Ville de Oneşti	A (?), A-B, B		Buzdugan 1968, 103; *Aşezări*, 365; Monah, Cucoş, 98, no. 441; Vasiliu 2016, 110.	
	Pătrăşcani					v. Gura Văii
10	Pânceşti	Sascut	A	Bz, Ha	Florescu, Căpitanu 1969, 234, no. 33; Monah, Cucoş, 128, no. 758.	
11	Pogleţ	Corbasca	A, B		Florescu, Căpitanu, 1969, 241, no. 38c; Monah, Cucoş, 131-132, no. 795.	
	Porcăreţ					v. Vâlcele
12	Slobozia (nom ancien: Slobozia Mielului)	Ville de Oneşti	-	Fortifi-cations	MDGR, I, 858; II, 351; Şandru, 224; *Aşezări*, 368, no. 506b; Monah, Cucoş, 145, no. 942; Vasiliu, 110, no. 13.	Autre nom: *Cetăţuia Belci*
	Slobozia Mielului					v. Slobozia, Oneşti
13	Slobozia	Stănişeşti	A, A-B (?)		Florescu, Căpitanu 1969, 248, no. 48b; Monah, Cucoş, 146, no. 944.	

[35] Sur l'importance de la toponymie historique pour la recherche archéologique a attiré l'attention le promoteur de l'étude de la culture Cucuteni dans le dép. de Neamţ, le Père Constantin MATASĂ (1943; 1968).

[36] URSULESCU 2007; 2008; 2014.

14	Sohodor	Horgeşti	A	Bz, Ha	Căpitanu 1982, 145; Monah, Cucoş, 147, no. 958.	
15	Ţigăneşti	Vultureşti	A, A-B, B		Monah, Cucoş, 159, no. 1073; Florescu, Căpitanu, 1969, 256, 258, no. 64a; 1994.	
	Văsieşti					v. Moineşti
16	Vermeşti	Ville de Comăneşti	A, B	Néol. ancien	Cucoş 1970; Monah 1976	
17	Vâlcele (nom ancien: Porcăreţ)	Corbasca	A		MDGR, II, 348; Vulpe *et al.* 1952, 216; Monah, Cucoş, 164, no.1121: *Movila Cetăţuia*	Autre nom: Cetăţile

Dép. de GALAŢI

No.	Localité	Commune	Phase	Autres périodes	Bibliographie	Observ.
1	Toflea	Brăhăşeşti	A		Monah, Cucoş, 154, no. 1036; Alecsă 2013	Autre nom: *Dl. Tănăsoaia*

Dép. de IAŞI

No.	Localité	Commune	Phase	Autres périodes	Bibliographie	Observ.
	Bazga					v. Răducăneni
1	Boatca- *Cetăţuia Gârbeşti / Cetatea Mare*	Dagâţa	A	Bz, Ha (?), MÂ	*Aşezări*, 322, no. 340; RAJI, I, 118, 120; II, 424; Monah, Cucoş, 100, no. 469.	Cetăţuia est située même entre Boatca et Gârbeşti-Ţibana
2	Buhalniţa	Cepleniţa	A	Ha, II-IIIe s, HMÂ, MÂ	*Aşezări*, 173; RAJI, I, 72	Cité gète
3	Conţeşti	Valea Seacă	A		*Aşezări*, 285, no. 228; Monah, Cucoş, 77, no. 249.	
4	Cucuteni	Cucuteni	A, A-B, B	Bz, LT	Schmidt 1932; Petrescu-Dîmboviţa, Văleanu 2004	
	Dagâţa					v. Boatca
	Deleni					v. Pârcovaci
	Gârbeşti	Ţibana				v. Boatca
5.	Iaşi- *monastère Cetăţuia*	ville de Iaşi	A	MÂ	MDGR, II, 350; RAJI, I, 193; Monah, Cucoş, 108-109, no. 554.	Le nom C. a été probablement antérieur à la fondation du monastère
6	Oboroceni	Heleşteni	-	MÂ	*Aşezări*, 292, no. 249b; RAJI, I, 169, no. 18; Monah, Cucoş, 124, no. 721.	
7	Pârcovaci	ville de Hârlău	A	MÂ	MDGR, II, 347; *Aşezări*, 211, no. 56a; RAJI, I, 1984, 182, 183, no. 10; Monah, Cucoş, 129, no. 774.	Autre nom: „La Sângeap”
8	Pocreaca	Schitu Duca	A, A-B	Ha	MDGR, II, 342; Monah, Cucoş, 130, no. 783; RAJI, II, 357-358, no. 14; Iconomu 2013.	Fortification. Autre nom: „La Cetate”
9	Răducăneni quartier Bazga	Răducăneni	A	Ha récent	RAJI, II, 334, no. 1; Merlan 2005, 73-74	Fortification. Autre nom: „La Cireadă”
10	Stroeşti	Todireşti	B		MDGR, II, 348; RAJI, II, 403, no. 15; Boghian 2004, 208	Nom actuel: „Pietrărie”
11	Valea Ursului	Miroslava	-	II-IIIe s, MÂ	RAJI, I, 239, no.37	Fortification
12	Vascani	Ruginoasa	A-B, B		MDGR, II, 350; Tufescu 1940, 354; Monah, Cucoş, 212, no. 1100; RAJI, II, 353, nos. 12-14; Boghian 2004, 203.	Nom oublié (nom actuel: peut-être „Lutărie”); trois sites ont aspect de „cetăţuie”.

Dép. de NEAMȚ

No.	Localité	Commune	Phase	Autres périodes	Bibliographie	Observ.
1	Bodeşti – *Cetăţuia Frumuşica*	Bodeşti	A, A-B, B		Matasă 1946; Monah, Cucoş, 65, no. 121; Ciubotaru 2007, 34, 43, 48, 184; Munteanu *et al.* 2014; Munteanu, Garvăn 2015.	
2	Borleşti	Borleşti	A, A-B	Bz	Monah, Cucoş, 67, no.136; Ciubotaru 2007, 35, 186.	
3	Costişa	Costişa	Precucuteni III, Cuc. A	Bz	Monah, Cucoş, 78-79, no. 266; Ciubotaru 2007,, 35, 192; Garvăn 2013, 29-30.	
4	Giurgeni	Valea Ursului	-	III-IVe s.; MÂ	Monah, Cucoş, 100, no. 464; Cucoş 1992, 58-59; Ciubotaru 2007, 62, 240.	
5	Icuşeşti	Icuşeşti	-	II-IIIe s.	Monah, Cucoş, 110, no. 566; Ciubotaru 2007, 58, 209.	
6	Negreşti	Dobreni	B (?)		Matasă 1938, 125, no. 27; Monah, Cucoş, 122, no. 699.	
	Poieni					v. Războieni
7	Războieni	Războieni	B	MÂ	Matasă 1938, 128, no. 36; Monah, Cucoş, 138, no. 866; Ciubotaru 2007, 52, 223.	
	Tazlău					v. Frumoasa (Bacău)
8	Ţibucani - *Cetăţuia Băluţeni*	Ţibucani	B	LT	Matasă 1938, 128, no. 41; Monah, Cucoş, 158, no. 1064; Ciubotaru 2007, 53, 238.	
9	Ţibucani - *Cetăţuia Poienari*	Ţibucani	B	LT	Monah, Cucoş, 158, no. 1065, 1067; Matasă 1938, 128, no. 42 („Poiana din Deal"); Ciubotaru 2007, 53, 238.	Autre nom: *Poiana din Deal*
	Valea Albă					v. Războieni
10	Văleni	Ville de Piatra-Neamţ	A, B	II-IIIe s; HMÂ	MDGR, II, 346; IV, 692; Matasă 1938, 98, 116-118, no. 9; H. Dumitrescu 1950; Monah, Cucoş, 162, no. 1106; Cucoş 1981; Ciubotaru 2007, 33, 47, 173.	
11	Văleni	Boteşti	-	Bz, Ha	MDGR, II, 348; Aşezări, p. 296, nr. 262b; Monah, Cucoş, 162, no. 1109.	fortification

Dép. de SUCEAVA

No.	Localité	Commune	Phase	Autres périodes	Bibliographie	Observ.
1	Baia	Baia	A		Beldiceanu 1883; MDGR, I, 197; II, 346; Ciurea 1933, 55; *Aşezări*, 308; Monah, Cucoş, 56-57, no. 34; Niculică *et al.* 2004.	Fortification. Autre nom: *Cetatea Baia*
2	Drăguşeni	Drăguşeni	B		Dumitrescu1933;Ciurea 1933, 54-55; Luca 1982; 1985; 2007, 23-25; Monah, Cucoş, 91, no. 375; Diaconu 2014.	
	Ilişeşti					v. Varvata
3	Rădăşeni	Rădăşeni	A, B	Bz ancien	Ciurea 1933, 47; *Aşezări*, 309, no. 304; Monah, Cucoş, 136, no. 136.	fortification
4	Varvata	Pârteştii de Jos	B	Ha	Niculică, Ignătescu, Boghian 1999, 42-43; Andronic 2010, 192.	Autre nom: „Cetăţica"

Dép. de VASLUI

No.	Localité	Commune	Phase	Autres périodes	Bibliographie	Observ.
1	Bârlăleşti	Epureni	A	Bz, Ha, LT, HMA	Mateescu 1944, 53-54; *Aşezări*, 339 (no. 402c), 354 (no. 444b: Schineni); RAJV, 127-129; Monah, Cucoş, 143, no. 914 (Schineni).	RAJV: *Dealul. Ciomaga*
2	Cetăţuia (nom anc.: Strâmba)	Puieşti	A	LT, IVe s., MÂ	*Aşezări*, 333, no. 376; RAJV, 215, no. 4; Monah, Cucoş, 74, no. 212.	
3	Fedeşti	Şuletea	A (?)	Ha récent	RAJV, 235; Monah, Cucoş, 95, no. 413.	fortification
4	Obârşeni	Vinderei	A		Brudiu 1970, 523; Monah, Cucoş, 124, no. 715.	fortification
	Schineni	Murgeni				v. Bârlăleşti

Dép. de VRANCEA

No.	Localité	Commune	Phase	Autres périodes	Bibliographie	Observ.
1	Domneşti-Sat	Pufeşti	A		Coliu 1933; Bobi 1979, 18, 24.	
2	Mănăstioara	Fitioneşti	A	Stoicani, Bz, LT	M. Florescu 1976, 396; 2000, 36; Bobi 1979, 26-27; Monah, Cucoş, 117, no. 637.	
3	Muncelu	Străoane	B	Bz	Brudiu 1970, 520; Bobi, 1979, 27; Monah, Cucoş, 121, no. 679.	fortification

Dép. de Buzău

No.	Localité	Commune	Phase	Autres périodes	Bibliographie	Observ.
1	Sărata Monteoru	Merei	Stoicani, B final	Bz, Ha, LT, VI-VIIe s.	Nestor 1944; Monah, Cucoş, 142, no. 910; Zaharia E. 2013	

Tableau 2. Association d'autres toponymes qu'indiquent d'anciennes fortifications (sauf *Cetăţuia*) avec des vestiges du type Cucuteni

Dép. de BACĂU

No.	Localité	Commune	Phase	Autres périodes	Bibliographie	Observ.
1	Blaga-*La Cetate*	Dealu Morii	A		Florescu, Căpitanu 1969, 265, no 78b; Monah, Cucoş, 63, no. 108	
2	Floreşti-quartier *Palanca*	Hurueşti	-		Monah, Cucoş, 96, no. 424.	

Dép. de BOTOŞANI

No.	Localité	Commune	Phase	Autres périodes	Bibliographie	Observ.
1	Fundu Herţii - *La Redută*	Cristineşti	A	HMÂ	Monah, Cucoş, 96-97, no 432; Petrescu-Dîmboviţa, Teodor 1987.	fortification
2	Hăneşti – Între Şanţuri / Valea Hârtop	Hăneşti	A	IVe s.	RAJB 1976, 140, no. 5; RAJB 2013, 229, no. 3; Monah, Cucoş, 104, no. 500.	Colline, délimitée par deux vallées
3	Miorcani-*Zamca*	Rădăuţi-Prut	B	P, IV-Ve s., MÂ	*Aşezări*, 253, no. 155; Niţu 1969; RAJB 1976, 208-209; Monah, Cucoş, 118-119, no. 656; RAJB 2013, 341-342.	fortification
4	Roma-*Zamca*	Roma	-		RAJB 1976, 234; Monah, Cucoş, 140, no. 893; RAJB 2013, 363.	
5	Tudora-*Ocop/Ocup*	Tudora	A	HMÂ, MÂ	RAJB 1976, 278; Monah, Cucoş, 157, no. 1056; RAJB 2013, 439.	fortification

Dép. de IAŞI

No.	Localité	Commune	Phase	Autres périodes	Bibliographie	Observ.
1	Andrieşeni *La Şanţ-La Movilă*	Andrieşeni	B		RAJI, I, 35, no. 8.	
2	Poiana cu Cetate – *La Cetate*	Grajduri	A	HMÂ	*Aşezări*, 329; RAJI, I, 158; Monah, Cucoş, 132, no. 800.	Fortification
	Slobozia-*La Şanţuri*	Sireţel				v. Todireşti
3	Todireşti-*La Şanţuri*	Todireşti	A	LT	RAJI, II, 371, no. 6; 400, no. 6	Fortification, qui continue à Slobozia
4	Todireşti-*Tabăra*	Todireşti	A	LT, MÂ	RAJI, II, 400, no. 4	

Dép. de NEAMŢ

No.	Localité	Commune	Phase	Autres périodes	Bibliographie	Observ.
1	Piatra Şoimului - *Horodiştea*	Piatra Şoimului	A, A-B, B	Bz, Ha, LT	Vulpe R, 1941; Matasă 1938, 119-120, no. 12; Monah, Cucoş, 129, no. 768; Ciubotaru 2007, 39, 44, 51, 215-216.	Fortification. Nom anc. de la localité: Calu

Dép. de SUCEAVA

No.	Localité	Commune	Phase	Autres périodes	Bibliographie	Observ.
1	Călineşti-Enache –*Ocop / Zamca Mare*	Dărmăneşti	-	Bz, HMÂ	Andronic *et al.* 2004, 169-170	
2	Preuteşti- *Cetate*	Preuteşti	A	Ha	Ursulescu, Manea 1981; Ursulescu, Popovici 1979.	
3	Siret- *Horodişte/Zamca*	Ville Siret	B	Bz ancien, II-IV s., MÂ	Monah, Cucoş, 144, no. 932; Ursulescu *et al.* 1988, 88-90.	
4	Siret-*Ruina*	Ville de Siret	B	P, Ha, XIXe s.	Ursulescu *et al.* 1988, 88-90-92.	
5	Suceava-*Câmpul Şanţurilor*	Ville de Suceava	B	MÂ	Ursulescu 1973, 52; Monah, Cucoş, 149, no. 983.	
6	Suceava-*Cetatea de Apus/Cetatea Şcheia*	Ville de Suceava	A	MÂ	Diaconu, Constantinescu 1960, 26-27; Ursulescu 1973, 50; Monah, Cucoş, 149, no. 985.	

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Fig. 1. Station éponyme de Cucuteni, “Cetățuie”: vue de l’Est de village de Băiceni (photo Nicolae Ursulescu).

Fig. 2. Site de Rădășeni-“Cetățuia” (photo Sorin Ignătescu).

Fig. 3. Site de Sărata Monteoru- “Cetăţuia” (after LAZAROVICI *et al.* 2009).

Fig. 4. Site de Preuteşti-“Cetate” (photo Sorin Ignătescu).

SYMBOLIQUE ET SÉMIOLOGIE À CUCUTENI
HOMMAGE À MAGDA MANTU LAZAROVICI

Marcel OTTE[1] et David DELNOŸ[2]

Résumé: Tout comme la civilisation, la céramique de Cucuteni possède une structure puissante, chargée de symboles orientés vers la perpétuité et le renouvellement. La fertilité de la terre s'y trouve transmise visuellement par le jeu des formes élégantes comme par les vases ouverts où l'offrande se trouve ritualisée. Une grammaire des formes articule quelques éléments de base, structurellement combinés en formules stéréotypées. Les lignes sinueuses données aux vases complexes évoquent des profils féminins, dont la peinture précise parfois les traits. La fonction de certaines céramiques apparaît liée à l'usage de feux rituels. Le raffinement de ces formes manifeste celui d'une pensée, renouvelée durant près de deux millénaires.
***Mots-clefs**: céramique, sémiotique visuelle, rituels, fécondité, symbolique*

De l'Ukraine à la Roumanie, une brillante civilisation s'est développée et maintenue florissante sur les terres fertiles au bord de la Mer Noire, durant tout le quatrième millénaire. Les vastes habitats concentraient des centaines de maisons en bois et en torchis à l'intérieur d'enceintes qui contenaient des milliers d'habitants[3]. Des temples prestigieux y furent reconnus et reconstitués[4]. Le culte de la fertilité y était témoigné par diverses expressions plastiques, dont les bucranes de bovidés, les statuettes féminines et les spirales[5]. De nombreuses fouilles, surtout concentrées en Moldavie, indépendantes ou roumaines, en ont restitué tous les détails économiques et sociaux[6]. Des restes d'ADN y ont montré un mélange de populations néolithiques issues de l'Anatolie et des peuples mésolithiques

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[3] PETRESCU-DÎMBOVIȚA *et al.* 1987.

[4] MANTU 1998.

[5] GIMBUTAS 1991.

[6] LAZAROVICI *et al.* 2009.

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régionaux[7]. Il s'agit du cas classique des agriculteurs diffusés sur les terres appropriées, mais en intégrant les chasseurs-récolteurs par voie d'acculturation (Fig. 1-2).

Devant l'extrême abondance des vases et des statuettes en argile cuite, on peut à l'évidence reconnaitre l'importance des valeurs symboliques exprimées selon cette formule, soit par le contenant, lourd et fixe, soit par les images codées, généralement féminines, qui expriment les concepts religieux et mythiques[8]. Nous nous sommes intéressés à ces variations plastiques, exprimables au moins dans leur évidence matérielle, mais dont la portée nous apparait relative aux fondements métaphysiques les plus élaborés[9].

Par les jeux des formes et des silhouettes, apparaissent aussi des codes esthétiques gratifiés par la tradition, reconnus et perpétués durant des siècles. Ces performances s'expriment dans un système de jeux plastiques structurés et combinatoires. Les œuvres complètes associent les pieds, les panses, les plats superposés, terminés par des couvercles, parfois intégrés, d'autres fois éclatés en composantes isolées (Fig. 4). Les registres formels sont assez limités, comme s'ils correspondaient à des fonctions spécifiques: l'assiette (basse, ouverture large), le plat (profond, ouverture large), l'urne (ouverture plus étroite que la panse), l'amphore (ouverture resserrée, panse large, base étroite), selon les rapports métriques entretenus entre les diamètres respectifs des bords, des corps et des fonds. Ces parties supérieures peuvent alors être posées sur des cylindres percés, suggérant leur emploi dans des rituels où le feu était annoncé, sinon entretenu. Ces activités cérémonielles se complètent par la présence de louches décorées, loin des exigences domestiques, autant que les vases biconiques jumelés, trop réduits et mal disposés pour la manipulation utilitaire (Fig. 5).

La céramique de Cucuteni offre une remarquable homogénéité formelle, dont chaque pièce se fait une nouvelle variation d'un corpus bien établi. Par-delà ces singularités, transparaît une gamme limitée d'activités auxquelles répondent ces objets. Nous retrouvons, entre autre, des tasses à anse zoomorphe, des plats à corole déployée et des bols à col resserré. Ces structures offrent de présenter une boisson ou une nourriture et de mettre en valeur ce contenu. Employés de manière profane ou rituelle, ces éléments sont destinés à la «consommation» d'un produit, éventuellement symbolique. La morphologie de ces pièces se modifie essentiellement par la base. Ainsi, les fonds arrondis se muent en cônes tronqués sur pointe. Ce changement projette davantage le contenu du récipient vers le haut. Cette dynamique se prolonge encore dans l'élaboration d'un pied, d'abord assez trapu et discret, ensuite élancé et ostentatoire (Fig. 3 et 7).

Au côté de ces céramiques destinées à montrer, il s'en trouve d'autres destinées au stockage. Celles-ci sont des bouteilles à haut col, des jarres à panse médiane et des amphores à épaulement. Les premières sont des cylindres à base enflée. Le diamètre important de leur ouverture semble propre à accueillir des céréales et autre aliments solides; ces poteries sont

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[7] NIKITIN 2018.

[8] MANTU 1997.

[9] OTTE 2012.

entièrement décorées. La présence, pour certaines, de petites anses comme de cols légèrement resserrés permet également d'envisager la suspension de ces objets, abrités ainsi des rongeurs. Les jarres ont une forme en cône inversé, avec un diamètre maximal à mi-hauteur. Le décor est réparti sur l'essentiel du vase, mais tend à se rassembler sur sa partie haute. Certaines portent des anses, parfois nombreuses, à l'instar de certaines bouteilles. Toutefois, le positionnement du décor suggère un stockage au sol, voire partiellement enterré. Compte tenu des dimensions parfois importantes de ces poteries, les anses peuvent avoir servi à déplacer les jarres en certaines occasions. Les amphores déploient leur volume en partie haute et se terminent par une ouverture rétrécie. Le décor délaisse ici le bas de la céramique pour se concentrer sur les espaces supérieurs. Certaines de ces poteries augmentent encore davantage l'épaulement et lui confère une forme de dôme. Le positionnement du décor, comme une base en cône inversé, suggère un stockage semi-enterré. Celles-ci ont pu contenir des liquides, conservés dans la fraîcheur du sol (Fig. 3).

Chacune de ces formes, outre leurs combinaisons en silhouettes, portent également des décors, peints ou appliqués, à valeur significative. Ces symboles désignent une figure humaine par de simples ocelles par de doubles points ou par deux arceaux emboités. On observe alors des effets de «compactions sémiotiques» par lesquels la panse, le col et les pieds des vases suggèrent le corps humain dans leurs volumes agencés, souligné par le décor appliqué. Un double jeu de références différentes participe à la création d'une suggestion complète et autonome. Ces accentuations si systématiques dans les vases complets et bien décorés, suggèrent une valeur symbolique constante accordée à ces récipients, même en l'absence de représentations explicites, et comme si les poteries, dans leurs formes et dans leurs décors, avaient possédé une valeur dissimulée sous les décors exubérants (Fig. 6).

Depuis ces formes de base, une céramique destinée clairement aux rituels s'est développée. Une première tendance apparaît dans l'analogie entre la silhouette féminine et la poterie. Le galbe de la céramique donne la courbe des hanches, et le décor trace les cuisses, le pubis et évoque les bras. À côté de ces éléments, les récipients sont portés vers le ciel par un pied d'importance croissante, voire primordiale. Les plus modestes se limitent à un simple bourrelet. À l'autre extrémité, les pieds prennent la forme de tulipes élancées. Un col marqué permet à cette colonne d'élargir la base. Certains de ces pieds sont percés d'ouvertures circulaires pour l'essentiel. Comme une synthèse de ces types de poteries nous retrouvons également des coupes portées au sommet de pieds en forme de tulipes et augmentées parfois d'anses. Ces dernières évoquent les bras d'une femme, posés sur la ceinture d'une jupe resserrée à l'instar des statuettes féminines de Cnossos. Aux côté de ces pièces monolithiques, se trouvent des figurent composites. Avec une silhouette davantage plantureuse, certaines de ces céramiques portent de véritables couvercles, certains avec pied, pour conforter leur structure anthropomorphe. D'autres poteries associent les bols au bord resserré, les jarres et des coupes pour composer des figures féminines trapues aux hanches marquées (Fig. 4 et 7).

Outre ces référents anthropiques, une large catégorie de vases renvoient explicitement à des cortèges animaux assez restreints et significatifs: le taureau, le félidés et le serpent. Le premier possède une valeur universelle liée à la fertilité. Le second symbolise la puissance et la force maîtrisées par cette image. Le troisième renvoie à la dissimulation inaccessible, au mystère d'un être sans patte. Il est assez significatif de voir le serpent lié aux vases profonds, comme s'il en surgissait, ou comme s'il s'y était réfugié, et comme c'est fréquemment le cas dans les mythologies des peuples agriculteurs: discret et fugace, le serpent effraie par sa dangerosité et son apparence maléfique. Une fois encore, son image sert à le maitriser par voie indirecte, autant que le taureau perd ainsi de sa puissance au profit des humains, via sa représentation seule. Et comme l'image de félidé suffirait à en déléguer son pouvoir à son créateur. Toujours, les formes argileuses de Cucuteni fonctionnent en termes métaphoriques: elles ne se désignent pas par elles-mêmes au titre de récipients, mais elles jouent sur leurs suggestions graphiques pour symboliser des codes mythiques, accentués par les formes auxquelles elles furent associées (Fig. 8).

La poterie, comme élément modelé, possède une symbolique assimilée à la Création. Dans la tradition védique, la fabrication de l'autel du feu nécessite l'emploi d'argile, mise à décanter dans de l'eau, utilisée ensuite par l'officiant. Selon le *Çatapatha Brâhmana*, cette eau correspond à l'Eau primordiale; l'argile représente la Terre et les parois de l'autel manifestent le ciel[10]. Par-delà ce symbolisme, l'utilisation du feu modifie la matière et fait surgir de l'argile informe une silhouette parfaitement définie et durable. À l'instar de certains autels védiques, la civilisation de Cucuteni nous a légué de petites plateformes sur quatre pieds, supports au feu rituel. Les pieds élancés de certaines céramiques semblent avoir contenu aussi des feux, dont l'action sur la partie haute a permis d'y consumer par exemple des graisses ou de l'encens. Au-delà de la flamme, le feu produit également de la fumée dont la ligne relie Terre et Ciel[11]. La tradition indienne a encore conservé les traces d'une «danse du pot», dont la forme-même représente la divinité. Ce rite est lié à la fertilité et à la création[12]. Le syncrétisme entre la valeur féminine et celle de la céramique, place en parallèle la création du Cosmos, celle des poteries et de la fécondité. Avec la néolithisation, se développe l'accumulation des denrées nécessaires à la vie sédentaire. Toutefois, plus fondamentalement, le propos symbolique demeure similaire aux populations mésolithiques. La conservation des graines récoltées manifeste la fertilité potentielle, latente dans le pot comme dans le champ. Le vase est également une cavité sombre, espace de l'informe, d'où l'on tire des éléments pour les porter à la lumière au travers d'une ouverture circulaire (Fig. 9).

Par-delà la variété de ses formes, cette céramique constitue un symbole de fertilité, de création et de renaissance. Les motifs en spirales participent également de cette symbolique. Obsédante, la spirale peut couvrir de larges espaces du vase. Elle se caractérise

[10] ELIADE 2013.

[11] CHEVALIER & GHEERBRANT 2014.

[12] CHEVALIER & GHEERBRANT 2014.

par un certain mouvement induit par l'enroulement de deux cordons, plus rarement d'un seul. De leur rencontre naît un centre duquel tout émane et tout conflue. La notion de centre et de sa rotation est un motif assez répandu, depuis le *barattage de la mer de lait* de la tradition hindoue jusqu'à la tradition celtique où la pérennité de l'*axis mundi* dépend de son maintien en mouvement[13]. La rotation d'une double spirale met en action deux énergies opposées, dont le motif du yin-yang nous offre un bon exemple. Le feu est également produit par le truchement d'un mouvement alternatif dont l'objet est l'archet[14]. La spirale recouvre les valeurs du cycle initié et perpétué, du déclin et de la naissance, mais également de l'eau génératrice et destructrice, comme le roulement de la vague. Cette figure correspond à un mouvement et s'oppose aux ponctuations. Certaines sont placées au centre de mandorles et évoquent ainsi le regard fixe, la lucidité immobile. La taille des spirales évoque également un symbolisme céleste, comme il nous est permis de le constater pour les Luluas. Aux côtés de ces motifs, apparaît essentiellement le signe en S. Symbole des changements au sein du cycle lunaire, son rapport à la fécondité est fréquent[15]. Il représente également le mouvement à l'instar de la spirale, et son prolongement selon le même cycle. Il constitue une répétition couvrant l'entièreté de certaines poteries d'un même mouvement. Ces S se retrouvent selon des modes aux lignes courbes mais également selon un schéma géométrique entremêlé (Fig. 10).

Cette structure semble également se prolonger dans l'attitude même de certaines figures zoomorphes, notamment les félidés. Ceux-ci se composent en oblique, l'arrière train levé et l'avant train couché. Les figures de serpents sont naturellement animées de ces mêmes mouvements. Leur capacité à surgir de dessous la surface du sol leur confère une valeur d'apparition et de disparition, assimilée au passage d'un état à un autre. Les figures anthropomorphes sont schématisées et révèlent un traitement différent. Elles se composent généralement de deux triangles, de même direction ou opposés par la pointe. Nonobstant l'utilisation de formes triangulaires pour le torse et le bassin, certaines figures sont réalisées avec plus de souplesse de trait (Fig. 11).

Aux côtés de ces éléments peints, le décor se constitue également par des images en argile apposées à la céramique. À la place des anses, nous retrouvons des figures de bovidés aux cornes déployées. Ces motifs s'expriment encore davantage sur les bols, où ils deviennent de véritables manches. Le symbolisme du taureau renvoie à sa force brutale et à la fécondité. Vrishabha, le taureau védique, constitue, comme dans les traditions altaïques et islamiques, un support au Monde[16]. À l'instar des spirales aux doubles enroulements, le taureau manifeste l'énergie créatrice et destructrice. Les larges cornes évoquent la puissance de l'animal et leur forme rappelle les décors en S. Le taureau s'inscrit dans une continuité de sens

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[13] DELNOŸ 2015a; DELNOŸ, 2015b.

[14] CHEVALIER & GHEERBRANT 2014.

[15] CHEVALIER & GHEERBRANT 2014.

[16] CHEVALIER & GHEERBRANT 2014.

établie entre le cycle cosmique, celui de la Lune et la puissance créatrice[17]. Intégrer l'image du taureau à la céramique unit leur symbolique en un même élément et, au-delà, en une même action. À ce titre, il est intéressant de remarquer la grande convergence symbolique des motifs décoratifs, par-delà la diversité de leurs formes. Seules les figures anthropomorphes paraissent construites selon une autre logique, comme les intermédiaires entre deux niveaux de réalité. Leur rôle semble se manifester dans l'action rituelle, laquelle a utilisée une panoplie d'ustensiles dont les céramiques (Fig. 12).

Toutefois et essentiellement, les décors d'apparence abstraite, couvrent les corps des vases, comme des statuettes: courbes, arceaux, spirales se constituent en jeux infinis, comme si l'artiste avait voulu atteindre la perpétuité dans un mouvement organique perpétuel. Les couleurs et le lustre viennent renforcer l'élégance de ses jeux de lignes courbes, ajoutés harmonieusement sur les silhouettes des vases composites en y créant de véritables œuvres d'art très éloignées de la fonction de simples contenants (Fig. 13). En particulier, la vague et la spirale renvoient directement au symbolisme de l'eau qui semble désigner la fonction et le contenu de certains de ces récipients. Souvent associés à des fonctions rituelles au sein de temples, cette relation ternaire entretenue entre: l'argile fertile dont est fait le vase, le thème aquatique suggéré par la spirale et la disposition liturgique, prend toute sa portée religieuse au sein de villages dont la survie est fournie par l'agriculture et l'élevage.

Le cercle est ainsi bouclé entre les divinités, les fonctions rituelles des vases non utilitaires, et les modes de vie millénaires et stables à forte démographie, et à organisation spatiale puissante et perpétuelle. De toute évidence, cette vaisselle n'était pas destinée à un usage domestique et technique mais servait à l'ostentation, à la fonction religieuse et aux récits mythiques qui offraient cette cohérence à la vie collective si bien équilibrée. Une telle stabilité, étendue sur près de deux millénaires devait être fondée sur des valeurs appropriées à la longue durée et aux organisations sociales intérieures assumées par tous collectivement. Les jeux de formes et des thèmes, étalés sur le long terme, manifestaient cette cohérence, voire cherchaient à l'imposer au titre de modèles dans ces expressions spectaculaire par de grands vases à la décoration vive et élégante.

En outre, les décors portés sur les figurines féminines, encore en terre cuite comme l'argile des champs fertiles, évoquent les mêmes significations, sous la forme d'arceaux emboités et de spirales. D'abondants tampons en argile cuite reprennent ces signes en creux, apparemment destinés à être appliqués sur les corps lors des cérémonies[18]. Diverses comparaisons ethnographiques attestent l'emploi de tels décors portés sur les jeunes filles lors du passage de l'enfance à la maturité. Cette métamorphose fondamentale dans toutes sociétés y est toujours marquée par des épreuves et des signes appliqués lors de ces cérémonies: peintures, tatouages, scarifications, afin de permettre l'entrée dans l'âge durant lequel la procréation devient possible et socialement autorisée. Dès lors, tous les autres

[17] CHEVALIER & GHEERBRANT 2014.

[18] DUMITROAIA 2005.

signes orientés vers la fécondité et la reproduction, y compris dans des temples domestiques, prennent toute leur importance dans une société fondée sur la production alimentaire, contrôlée et voulue, par les mêmes règles sociales. Cette religion y fut orientée vers la survie non seulement spirituelle, mais aussi le plus directement économique. Une foi solide unissait le destin de cette civilisation autant que la vie domestique de chacun de ses membres (Fig. 14).

Les statuettes de Cucuteni possèdent une structure quasi-constante, comme s'il ne s'agissait pas d'un individu plutôt qu'un autre mais plutôt de modèles considérés comme propres à ces moments cruciaux de l'existence, autant du groupe que de l'individu. En d'autres termes, les décors unifient à la fois les statuettes et les décors portés sur les vases somptueux: chacun se trouve associé à l'idée de renouvellement et de fécondité: la jeune femme, la spirale, le taureau et le récipient destiné à contenir de l'eau. La position assise et le bassin plantureux de nombreuses de ces dames, renforcent leur vocation procréatrice. Cette impression est d'autant accentuée par la présence de sièges, voire de trônes, celle d'autels minuscules et celle de groupes de personnages où ils s'associent comme des «panthéons» néolithiques, désignés par leurs variations de décors et d'accoutrements. Si nous ajoutons le contexte des temples où ils furent découverts, nous disposons d'une gamme complète d'expressions religieuses et sociales, tendues vers la cohérence, entre les dieux et les hommes, au nom d'une société abondante, prospère et forte.

La présence et l'emploi du métal natif apparait déjà indirectement par le débitage de grandes lames régulières, larges et massives, qui exigent un percuteur armé d'un cylindre de cuivre, sans quoi la force de l'impact écraserait un intermédiaire organique. Une sépulture découverte en Moldavie avait d'ailleurs livré une de ces pièces intermédiaires, disposée à l'extrémité d'un manche; et nos expériences dans le Chalcolithique du Kurdistan ont amplement démontré cette exigence mécanique[19]. Ces grandes lames, outre leur témoignage indirect du métal natif, ont aussi servi à l'échange lointain au titre de produits semi-finis, et entrent donc dans des réseaux commerciaux à longue distance. À Cucuteni, elles servent en particulier à réaliser de superbes pointes dites «de flèches», mais si élégantes et si fragiles qu'elles possédaient plutôt des vocations de prestige que d'utilisation réelle. Déjà, une trace de hiérarchisation se manifeste dans de telles préoccupations, autant que dans l'emploi de l'or également attesté pour des objets de parures et d'expression de classes sociales.

L'introduction du cuivre dans ses dernières phases a peut-être précipité la fin de cette civilisation, car on y trouve des armes redoutables, tels les poignards et les haches-marteaux. Une déstabilisation interne a pu pervertir les rapports sociaux en y établissant des classes hiérarchiques selon la possession, l'emploi et l'ostentation de ces armes prestigieuses et de ces métaux précieux, tel l'or. Mais ce contact a aussi pu correspondre à des signes extérieurs de rivalités belliqueuses et donc d'équipements portés vers la guerre en guise de réaction «cucuténienne». De toutes évidences, les richesses alimentaires et

[19] OTTE & BEHME-BLANCKE 1992.

spirituelles de ce peuple aux marges des steppes, devaient former l'objet de convoitise, donc tentatives de conquêtes.

Mais si on s'en reporte au modèle de l'empire romain, comme de tout autre, on observe en réalité la combinaison des deux facteurs simultanés: une perte de valeurs et d'idéal à l'intérieur d'une société secouée par des innovations internes, et l'assouvissement d'une perpétuelle convoitise par les peuples alentours, rendus ainsi audacieux par les incohérences tourmentant une société «prête» aux changements. Le développement autant que la disparition d'une si brillante civilisation telle celle de Cucuteni, vient ainsi renforcer un mécanisme universel d'autodestruction par essoufflement, comme l'Histoire offre des exemples en abondance. Cette aventure millénaire mérite ainsi une considération théorique à portée universelle et diachronique. Il semble bien que toujours les groupements d'individus humains se trouvent à la fois portés par des systèmes de valeurs communes qui passent par un phase d'expansion équilibrée, puis subissent des contrariétés de vieillissement incohérents et délétères dès que le moteur de ses idéaux se trouve remis en cause.

Toutefois, les processus d'anéantissement de cette harmonieuse civilisation devraient moins nous retenir que son modèle d'équilibre, de ses moyens d'y parvenir et de s'y maintenir si longtemps. De toute évidence, la combinaison des temples, des cultures, des créations artistiques ont constitué les moteurs à un équilibre démographique, puissant et durable, apparemment issu des expériences anatoliennes mais diffusées et développées ailleurs, là où les mésolithiques n'avaient guère trouvé un mode d'existence durable et dense. Ce modèle de civilisation perpétuelle doit nous servir pour en extraire les mécanismes fondamentaux, et chercher à les appliquer en toute autre situation historique, la nôtre incluse…

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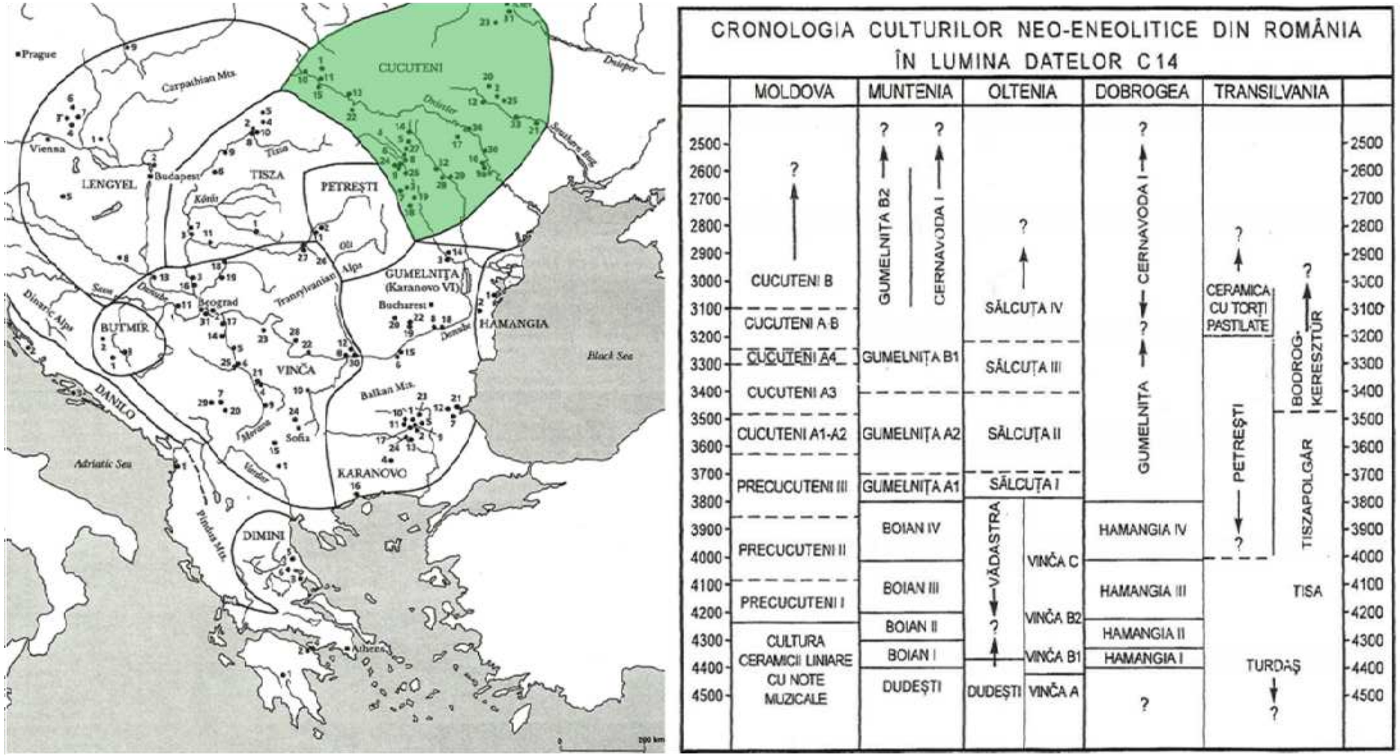

Fig. 1. L’espace compris entre la Grèce, les Carpates et l’Ukraine constitue, au Néolithique, un véritable patchwork au sein duquel des tendances culturelles se distinguent nettement, telle la culture de Cucuteni. Ces singularités se marquent également dans le temps où les entités culturelles demeurent et changent au gré des circonstances. À gauche: carte de répartition des différentes cultures néolithiques de la région envisagée. La culture de Cucuteni correspond à l’espace vert (Carte modifiée par Delnoÿ d'après GIMBUTAS 1991). À droite: chronologie des différentes cultures néolithiques, selon les aires d’expansion géographique. (Illustrations d’après MANTU 1998).

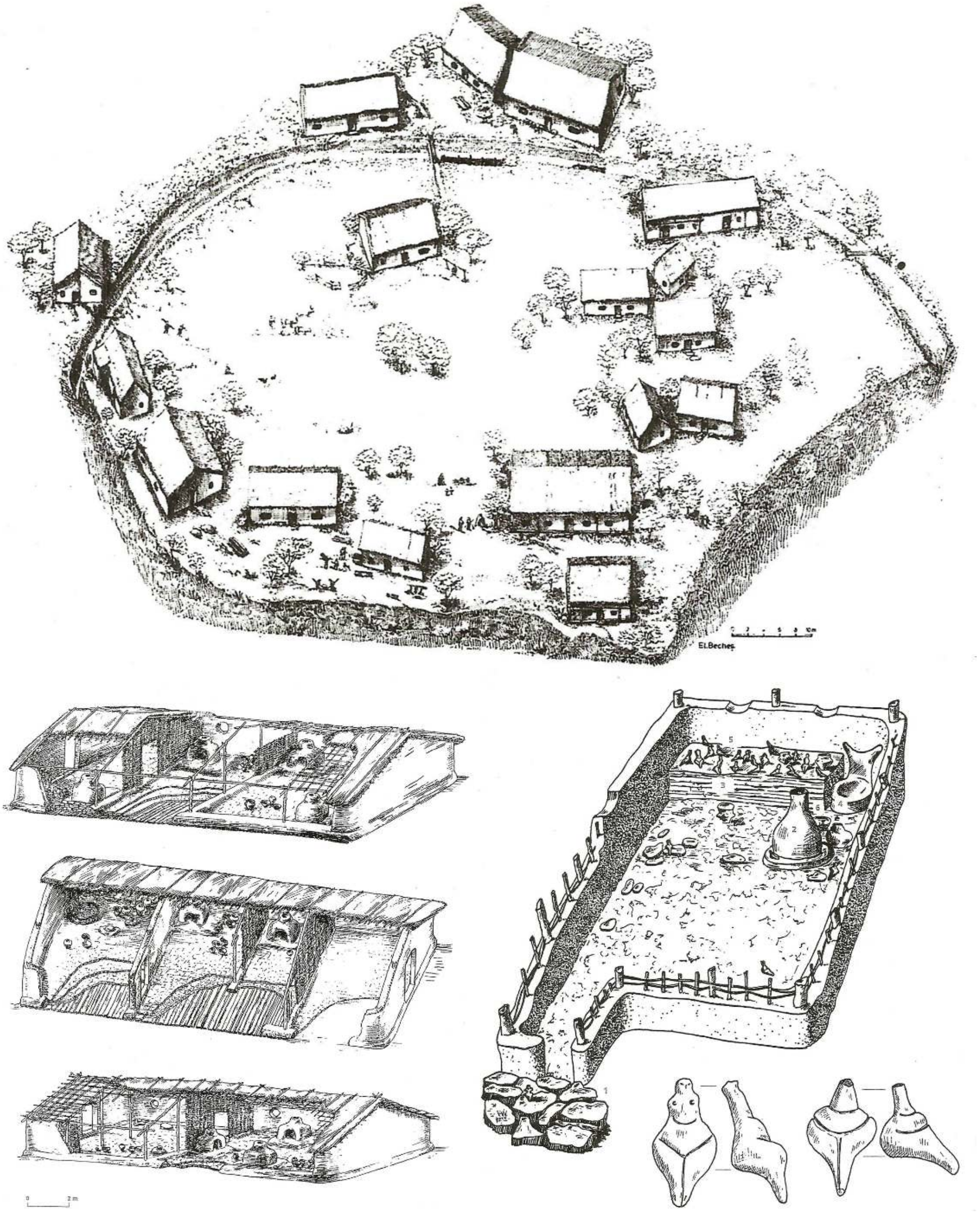

Fig. 2. Au cœur de la culture de Cucuteni, de nombreux villages apparaissent.
Différents bâtiments s'y développent et s'organisent selon les contraintes sociales. À l'intérieur des habitats, cette même organisation structure l'agencement des différentes pièces et leur fonction. À leurs côtés, les temples manifestent une conscience mythique, où furent retrouvées de nombreuses statuettes en argile cuite. (Illustrations modifiées par Delnoÿ: en haut, d'après MANTU 1997; en bas, d'après GIMBUTAS 1991).

Fig. 3. Les céramiques où sont présentés les aliments se développent à l'instar d'une floraison. Comme le pistil dans un bouton, le contenu se trouve ceinturé d'un bord resserré. Avec l'ouverture de la corole et l'abaissement progressif du bord, le cœur de la fleur apparaît peu à peu, comme les ingrédients magnifiés sur un plat. Les poteries destinées au stockage développent une gamme de formes relativement verticales. La masse du vase, placée plus ou moins haut, et l'ouverture induisent la fonction du récipient. (Illustrations modifiées par Delnoÿ d'après LAZAROVICI *et al.* 2009).

Fig. 4. L'assemblage des différentes formes de céramique offre l'occasion de créer de véritables silhouettes anthropomorphes. Chacun des éléments de ces constructions conserve une fonction particulière, indépendante de la structure à laquelle il est intégré. Les couvercles, entre autres, sont tantôt les bols où sont contenus des aliments (cf. Fig. 3, bandeau supérieur), tantôt les couvre-chefs et les visages de constructions anthropomorphes. Le jeu sur l'assemblage des formes de céramique se prolonge également dans celui du décor. Il termine d'unifier les différents composants et nous poussent à les considérer comme les parties d'un tout.
(Illustrations modifiées par Delnoÿ d'après LAZAROVICI *et al.* 2009).

Fig. 5. La finesse des formes et des décorations traverse tous les types de céramique. Depuis la réponse pratique à une intension fonctionnelle, la tradition Cucuteni façonne l'ensemble de ces éléments pour les mouler à son image. La quintessence de l'ornementation et de la silhouette, manifestée au travers de ces pièces, participe de l'emploi rituel de telles céramiques. À l'aune de leur élégance, nous pouvons supposer le raffinement des cérémonies au cours desquelles elles furent employées.
(Illustrations modifiées par Delnoÿ d'après LAZAROVICI *et al.* 2009).

Fig. 6. En certaines occasions, le galbe appuyé de la céramique devient la courbe des hanches. Le décor tout entier se met au service de cette figuration. Avec plus ou moins de suggestion, il dessine les cuisses, le triangle pubien, le ventre et les seins. La morphologie-même de la céramique en est modifiée et des jambes, modelées dans l'argile, projettent bientôt un bassin au mitant du vase. (Illustrations modifiées par Delnoÿ d'après LAZAROVICI *et al.* 2009).

Fig. 7. Les formes de base de la céramique de Cucuteni sont parfois complétées par un pied. D'abord modeste, limité à un simple bourrelet placé à la base de la poterie, ils se développent progressivement et portent vers le ciel l'entièreté de la gamme des vases. Le raffinement de ce socle semble trouver son équilibre dans un fût évasé à sa base. Ces poteries prennent bientôt les traits de silhouettes anthropomorphes. Au-delà des assemblages de diverses formes céramiques (cf. Fig. 4), celles-ci développent un véritable corps, parfois même augmenté de bras.
(Illustrations modifiées par Delnoÿ d'après LAZAROVICI *et al.* 2009).

Fig. 8. Outre les motifs abstraits et géométriques, les céramiques de Cucuteni nous offrent de découvrir un cortège d'animaux restreint. Taureau, félidé et serpent en constituent la part zoomorphe. Placés à l'extérieur comme à l'intérieur (cf. Fig. 11) des poteries, ces figures constituent de véritables entités intégrées au contexte de la céramique. À l'instar de la morphologie générale du récipient ou du décor, elles portent une signification par-delà les limites fonctionnelles de leur support. (Illustrations modifiées par Delnoÿ d'après LAZAROVICI *et al.* 2009).

Fig. 9. Des céramiques allongées et percées de trous mais également de petits plateaux placés sur quatre pieds suggèrent des activités rituelles liées au feu. Par celui-ci, l'humanité possède la capacité de modifier les aliments comme l'argile ou les métaux. Le feu est alors un moyen de modeler la matière et de lui créer une morphologie inédite. Le feu auquel est offert l'encens ou la graisse, loin de détruire ces éléments, les rend aptes à rallier les entités auxquelles elles sont destinées. L'odeur de l'encens, libérée par la consumation de la résine, participe d'une logique similaire à celle de la mort initiatique où le novice «meurt» à sa condition initiale pour s'incarner dans un corps nouveau. De la même manière, la transe vise à libérer l'âme du chaman pour rejoindre les différentes régions du cosmos. À gauche, céramiques Cucuteni (Illustrations modifiées par Delnoÿ d'après LAZAROVICI *et al.* 2009). À droite, différents moments du rituel védique *Yajna* (En bas à droite: Illustrations d'après Nvvchar; En haut à droite: Illustrations d'après Mauter).

Fig. 10. La céramique de Cucuteni offre de véritables œuvres d'art où la forme générale s'oublie sous un décor luxuriant. Les multiples spirales et les enroulements en S permettent de couvrir l'entièreté des vases. La simplicité de ces formes permet de conserver l'élégance et la clarté du trait et d'éviter l'écueil d'une surcharge graphique. Afin de conserver l'évidence du regard, certaines céramiques font montre d'une économie de décor. Cette caractéristique rend d'autant plus prégnant ces yeux, dont les contours sont encore soulignés de traits et d'incisions.
(Illustrations modifiées par Delnoÿ d'après LAZAROVICI *et al.* 2009).

Fig. 11. Aux côtés des figures zoomorphes, les représentations anthropomorphes apparaissent traitées selon une structure davantage géométrique. À ces corps composés de deux triangles, les bras et les jambes apparaissent parfois réalisés par un même trait, rapproché du corps au niveau de la taille et terminé par un épi. En d'autres occasion, la figure même de l'anthropomorphe, devient un élément d'un décor globale du vase. Le jeu des formes se poursuit et le corps de la figure anthropomorphe se change en un composant d'un visage humain. (Illustrations modifiées par Delnoÿ d'après LAZAROVICI *et al.* 2009).

Fig. 12. Certaines des figures représentées au travers de la céramique Cucuteni profitent d'un développement particulier. La figure de taureau est ainsi associée à la céramique au travers d'un décor peint ou d'un bucrane en argile apposé telle une anse. Pour ces exemples, la figure animale demeure associée à un ensemble plus complexe matérialisé par le vase, sa morphologie et le reste de son décor. Le taureau apparaît également au travers de vases entièrement façonnés à son image et sous la forme de statuettes éloignées de toutes fonctionnalités pratiques. Pour ces cas, la pièce devient le taureau. Quand le contenant s'associe à la figure du taureau, ces pièces offrent à l'officiant d'agir directement sur le symbole-même de l'animal pour réaliser une action rituelle. (Illustrations modifiées par Delnoÿ d'après LAZAROVICI *et al.* 2009).

Fig. 13. Loin de toutes interprétations et de toutes fonctions utilitaires, la céramique Cucuteni se caractérise par un raffinement et un équilibre des formes. Depuis les plus petites réalisations jusqu'aux plus grandes, un soin égal et une attention pareille ont été portés à l'esthétique de ces pièces. Celle-ci, par-delà les âges, parvient toujours à nous toucher. L'élégance du décor comme l'habileté des formes sont les marques d'une esthétique dont l'empire dépasse les simples nécessités fonctionnelles.
Ici comme ailleurs, au travers des différentes cultures, l'humanité manifeste sa recherche du Beau et son besoin d'exprimer l'ineffable. (Illustrations modifiées par Delnoÿ d'après LAZAROVICI *et al.* 2009).

Fig. 14. Les statuettes de Cucuteni portent de nombreux décors, exclusivement peints ou incisés, entièrement conditionnés par la forme humaine. Ces ornements évoquent les décorations corporelles associées notamment aux initiations, universelles à l'humanité. Les décorations sur le corps des jeunes et les cérémonies signalent le passage d'un état d'existence à un autre, telle l'entrée dans la vie d'adulte. Contrairement aux peintures, les tatouages et les scarifications inscrivent de manière pérenne la position sociale de l'individu au sein de la société. Les signes apposés sont également fonction du sexe de l'individu et de son âge. Des tampons, sur lesquels sont moulés des motifs particuliers, peuvent également être utilisés pour imprimer un élément sur le corps. L'ensemble de ces marques constitue véritablement l'identité de l'individu, dont il peut conserver la trace physique. À l'instar des vases, la peau est un moyen de manifester le propre de l'individu. (Illustrations modifiées par Delnoÿ; en haut à gauche: jeunes Suri, Éthiopie, d'après Tom; en bas à gauche: scarifications africaines, d'après Galikaia; statuettes et tampons: d'après LAZAROVICI *et al.* 2009).

THE BIRDS IN THE IMAGINARIUM OF CUCUTENI-TRYPILLIA WORLD. NEW PLASTIC REPRESENTATIONS

Senica ŢURCANU[1]

Abstract: Although numerically reduced, the aviform finds are known in all evolutionary phases of the Precucuteni-Ariușd-Cucuteni-Trypillia cultural complex. Their presence – as painted or sculptural artwork – reveals the existence of a mythologic and ritual scenography in which the birds, the animals whose main attribute is flight, played an important role.

The present paper aims to introduce into the scholarly circuit some new aviform representations discovered by the archaeological research of the last years or even by careful analysis of materials that have long entered into museum storage but have not been published. These finds include new sites and special items in the area of distribution of aviform representations, which makes their publication important. Typically analyzed and integrated to similar discoveries in the area of reference civilization, such finds indicate the multiple valences of aviform representations, allowing different directions of analysis and interpretation.

Keywords: *birds, plastic representations, symbolic meaning, Precucuteni, Ariușd, Cucuteni, Trypillia*

INTRODUCTION

Of the thousands of sites inventoried in the area formerly occupied by Precucuteni-Ariușd-Cucuteni-Trypillia cultural complex communities[2], as well as of the few hundreds investigated more or less systematically, only a few dozen provided aviform representations.

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[2] The Precucuteni-Ariușd-Cucuteni-Trypillia cultural complex emerged in southeastern Transylvania and in the Central-Western area of Moldavia and then gradually expanded to the east and north-east, reaching the Dnieper and reaching its peak expansion phase in the northwest of the Black Sea (in its eastern areas) and the Podolia Plateau and Volhynia (in its northern areas), over a total area of more than 350,000 km^2.

These are mostly "in the round" ceramic pieces, individual plastic representations, or more or less schematized protomes and, rarely, figures painted on the walls of vessels.

Establishing their place and role in prehistoric imagery is still a challenge for specialists. As a matter of fact, the number of studies devoted to them is quite low, as only a few titles can be cited for over 130 years of research[3].

The main purpose of this paper is to introduce into the scientific circuit a few new aviform representations discovered by the archaeological research in the last years, as well as by careful analysis of material that have been registered into collections since long time but have not been published. These finds enter new sites or even special specimens in the distribution area of aviform representations, which makes them important. For their correct presentation, I considered it appropriate to make a brief review of such discoveries in the area of the Precucuteni-Ariușd-Cucuteni-Trypillia cultural complex as well as their main directions of analysis and interpretation.

By adopting and processing the typologies used in the last papers in which this issue was discussed[4] we assert that the aviform representations in the cultural environment under scrutiny can be systematized into four large subdivisions, and each of these in several types and subtypes, which we will further detail:

1. Aviform statuettes
   - 1a. Aviform statuettes proper
   - 1b. Aviform statuettes with containers one their backs
   - 1c. Rattle-type aviform statuettes
   - 1d. Ocarina-type aviform statuettes
2. Aviform containers
   - 2a. Askos-type aviform containers
   - 2b. Vessels with aviform protomes
   - 2c. Vessels with aviform handles
   - 2d. Vessels with bird attributes
3. Domestic implements with aviform handles
4. Painted aviform representations.

[3] MOVŠA 1965; NIȚU 1975a, 1975b, 1976; BOGHIAN, MIHAI 1987; BOGHIAN 1995; COMȘA 2002; IAKUBENKO 1998, BURDO 2004, GARVAN 2011, BEJENARU, MONAH 2014; ISTINA, PLĂCINTĂ 2018.

[4] BURDO 2004; GARVĂN 2011; BEJENARU, MONAH 2014.

1. THE AVIFORM STATUETTES

1a. The aviform statuettes proper (fig. 1/1-8; 2/3, 5-6)

At present, there are about 20 sites spread throughout the cultural area of reference, where aviform statuettes were discovered (see Table 1)[5]. The actual number of pieces is larger, as some sites produced several artifacts.

The quasi-majority are birds with folded wings, standing, more precisely positioned on a single cylindrical stem, generally short, frequently flared towards a circular base (fig. 1/1-4, 6, 8). There are subtle differences between them: the length and position of the neck (arched-bent or obliquely positioned with the head upwards), the way the tail is depicted (short or rounded, slightly market or even hanging) and some details of modeling and ornamentation (incisions, painting or notches) that indicate eyes, feathers or wings. In all known specimens, the head is stylized, with the beak rendered as a conical-rounded protrusion. These are pieces which size varies between 30 and 60 mm.

Only four pieces are known to depict birds with open wings (fig. 1/5; 2/3, 5-6). The earliest (fig. 1/5) originates in the Precucuteni III level of Târpești Marinescu-Bîlcu[6]. Partially preserved, the piece depicts a typical representation of a bird with upward body, positioned on a tall cylindrical stem, flared towards a circular base. The head (now missing) was placed on a long, vertical neck. The tail of this bird is differently modeled from those of other representations, being thin, long, slightly arched downward. The opened wings are mostly suggested. These appear as two small cones positioned symmetrically on its side, drawn from the body. A similar representation of the wings appears in the second piece (fig. 2/5) from the Cucuteni A_4 settlement of Drăgușeni[7].

The third piece (fig. 2/3) comes from the Cucuteni A_3 settlement of Hoisești[8]. Positioned on a short, slightly flared cylindrical support, it depicts a bird with its wings open and the body positioned horizontally (L=57 mm). The head, slightly raised, has the neck modeled in the typical way of rendering the contemporary aviform protomae (with a dewlap of some kind). As in the case of these other examples, the neck is perforated transversally. The wings are rendered open, being modeled as two small horizontal handles, flattened, rounded, trapezoidal, slightly arched upwards. The way these wings are rendered is typical of the southern representations discovered in the area of Gumelnița culture[9],

[5] We are aware of the existence of several other original pieces presented to the public in various exhibitions in Ukraine, which appear in photos posted on various online social media, such as in the Trypillian Civilization discussion group.

[6] MARINESCU-BÎLCU 1981: 69, fig. 196/1=197/2.

[7] MARINESCU-BÎLCU, BOLOMEY 2000, fig. 177/4.

[8] FURNICĂ 2014: 25, fig. 25.

[9] COMȘA 1999, ANDREESCU 2012.

transforming this representation into a special one, indicating connections with neighboring southern cultural areas.

The same type of piece is also illustrated by the fragmentary item (fig. 2/6) found in the old collections of the Museum of Moldavian History[10] of unknown place of find. This piece as well had "wings stretched sideways and backwards", i.e. arched upwards, suggesting their opening and movement in flight. This item is described with a very interesting turn of phrase, that it is molded from a "fine, sun-dried paste". Without going into detail, we point out that the making of pieces in unfired clay indicates the existence of artifacts designed to have a deliberately short or very short existence, as opposed to high-quality ceramic pieces fired at high temperatures. Although difficult to document, such items, which were just sun-dried, are documented in the Anatolian Neolithic-chalcolithic[11] as well as in the cultural area under scrutiny[12]. These are, for obvious reasons, archaeologically elusive.

The category of aviform statuettes includes a piece (fig. 1/4) discovered in 2017 in the Cucuteni A_3 settlement of Scânteia-*Dealul Bodeştilor*. Although schematically made, the little statue is of fine craftsmanship, and masterfully depicts the silhouette of a bird. The body of the fowl is shown in an approximately horizontal position, supported on a flared, short cylindrical stem with concave circular base. The neck itself is not individualized, but the typical dewlap of aviform representations of this chronological level is clearly marked.

Although the artefact underwent a secondary burning that altered its original appearance, one can assert that it was not decorated.

The actual context of the find does not provide any special elements. The statuette comes from a domestic usage area at the edge of a dwelling (L15).

The distinguishing feature of this statuette is its miniature size (H=17mm; L=20mm), which is currently the smallest piece of this type found throughout the reference area.

The find of most similarity in terms of rendering the bird's figure is the one of Putineşti I (fig. 1/7) (dated in Precucuteni III/Trypillia A)[13].

Returning to this important type of aviform items (i.e. the statuettes proper), we can see that although rare, these are present in most of the phases and stages of the Precucuteni-Ariușd-Cucuteni-Trypillia cultural complex, both in the area of Ariușd aspect in Southeastern Transylvania (Păuleni) and to the west of Prut, both in the Precucuteni III settlements (at Târpești, Târgu Frumos, Traian-*Dealul Fântânilor* and Poduri), and in the Cucuteni A sites (Bârlăleşti-Sturza, Păuleni, Hăbăşeşti, Trușești and Drăgușeni) and even

[10] BERLESCU 1964: 75-76, pl. XXIV/10.

[11] MOOREY 2005: 17.

[12] A similar situation was recently seen in the laboratory during the restoration of a miniature dish found in Scânteia.

[13] BODEAN 2001: 84, fig. 41/2.

in the Cucuteni B ones (at Ghelăeşti and Feteşti). In the eastern and northern areas of this cultural complex such artifacts are present particularly in the Precucuteni III/Trypillia A settlements of Bernovo-Luka, Mogylna III, Putineşti, Sabatinovka II, as well as in late sites dated to Trypillia CI in Cherkasy and Uman regions.

1b. Aviform statuettes with containers one their backs (fig. 2/4)

A distinct type within the category of aviform statuettes is the statuettes that have a small container embedded in the body, more precisely along the spinal area[14].

Only one piece of this type (fig. 2/4) is known throughout the area of distribution of the analyzed communities, a find from Poduri[15]. The chronological level to which it belongs is unknown[16].

The remaining two-thirds (missing head) of the artifact is a typical bird statuette with its body in a horizontal position, on a short, slightly flared cylindrical foot with a concave circular base[17]. The small container located axially on the body is 30 mm long and approximately 30 mm deep. The upper edge of the container is well contoured, even slightly bent inward. The inner surface of this cavity is covered with a white-yellowish layer. It is not certain whether it is a painting layer or a deposit left by a substance it contained[18].

The zoomorphic artifacts with dorsal containers have analogies in several Neolithic-Chalcolithic cultures both in the Balkan-Aegean and the Anatolian areas[19]. Their origin and purpose have been extensively discussed in the literature, most of the advanced hypotheses indicating their use as small lamps or containers for special substances used in some ritual scenography[20].

1c. The rattle-type aviform statuettes (fig. 3/1-5)

The type that counts the most aviform pieces – at least up to the present – is that of the rattle-type aviform statuettes (see Table 1). There are about 30 pieces discovered in around 20 sites.

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[14] In the analyzed cultural environment, several zoomorphic statuettes representing mammals with recipients in the dorsal part are known (STRATULAT *et al.*, 2013, Cat. 78; SZTÁNCSUJ 2015, pl. CCXXVI/2, 11, 15, 16; CCXXXI/12; CCXXXIII/12, 14; CCXXXV/1, 7, 9). Commonly referred to as zoomorphic vessels, these are morphologically similar to the statuettes, which has led us to classify them in this category.

[15] GARVĂN 2011: 172, pl. III/1.

[16] The settlement known as Poduri-*Dealul Ghidaru* is a Cucutenian tell with an impressive stratigraphic succession. The oldest level of dwelling dates back to Precucuteni II, while the most recent is Cucuteni B_2 (MONAH, CUCOȘ 1985: 131; MONAH *et al.*, 2003; DUMITROAIA *et al.*, 2009).

[17] GARVĂN 2011: 172, pl. /1.

[18] GARVĂN 2011: 172.

[19] NIȚU 1972.

[20] NIȚU 1972; BÁNFFY 1997.

With a few exceptions, which we will detail below, almost all of these pieces are unitary in terms of representation. These depict the body of a bird placed horizontally on a cylindrical stem with slightly flared lower part. Generally, the base is heart-shaped[21].

The body of the bird is ovoid. The wings are shown as stuck to the body, indicated by rounded side protrusions, which are outlined in various ways, on a case-by-case basis. The tail is sometimes rounded, outlined and specially decorated, and other times quasi-nonexistent or triangular and pointed. The head is always held high.

The distinguishing feature of this type, that sets it apart from other "in the round" aviform representations is the presence of an inner cavity in which ceramic balls or pebbles were placed. Its extension and its way of embedding in the whole of the piece indicates the existence of several typological variants/subtypes.

The many specimens found in fragmentary state provided the opportunity to observe this cavity, which, from the point of view of sound quality, has played a role of "resonance chamber". First, there are notable differences in its dimensions. Sometimes it only takes space in the body itself; sometimes it extends to the stem[22]. However, there are situations where the entire inner surface of the piece forms the cavity (fig. 3/2). Typologically, if the first pieces can be considered as aviform statuettes with an inner cavity, in the last cases cited, we were basically dealing with closed containers, with walls shaped similarly to vessels[23]. The most notable example to illustrate this last subtype of pieces comes from Koszilowce[24] (fig. 3/2).

Sometimes the inner surface of these cavities has been given a special treatment and is very well smoothed[25].

Up to the present, only two whole pieces have been illustrated in the literature, which still have their beads inside, the one from Hetmanivka 1[26] (fig. 3/3) and the one from Brânzeni VIII[27] (fig. 3/4).

A radiography of the item recently discovered in Hetmanivka I[28] revealed that the find, with the dimensions H=66 mm and L=59 mm, has a 30x32 mm, oval shaped cavity, in the center of the bird's body, containing four small clay beads.

These pieces as well are modeled according to a rather rigid canon of representation. Although discovered at large distances one from another, the formal resemblance between

[21] IAKUBENKO 1998: 47.

[22] IAKUBENKO 1998: 47.

[23] The most convenient comparison for this type of artifact is the present-day piggybanks, without the special slot.

[24] HADACZEK 1912, t. XX/172.

[25] IAKUBENKO 1998: 46.

[26] KIOSAK *et al.* 2014a: 67-72, fig. 3-4; 2014b.

[27] ȚERNA, HEGHEA 2017: 306-307, fig. 10/12.

[28] KIOSAK *et al.* 2014a, fig. 4.

such pieces is sometimes surprising. By analyzing several items and studying the appearance of repetitive morphological elements, Olena Iakubenko advanced the idea that a type of forming die might have been used for their manufacture[29].

All these bird-rattles are well fired. For the finds for which the fabric data is published (about half of the known pieces), the paste is fine, with the addition of grog, sand and even organic aggregates. One interesting observation that was made on one of the pieces was that it was modeled from a mixture of two differently colored clay, one red and the other white[30]. We have no doubt that this mode of making was linked with the semantics of the artifact.

This consistency is found at the level of the decor as well. Almost all of the pieces are covered in a yellow-orange or even reddish slip. Some also preserve a painted decoration applied over the slip. The painted decoration include linear motifs, concentric circles and, on the back of the piece, a "herringbone" motif with the opening towards the tail of the bird, interpreted as a representation of the "tree of life". Incised lines complement or highlight certain decorative motifs[31].

The size of the bird-rattles varies. It is difficult to detail their full length and height due to the fragmentation of most finds. Considering the height at the base of the neck, Valentina Balabina determined that the height varied between 35 and 68 mm. To date, the tallest piece preserved is the one from Brânzeni VIII, with a total height of 95 mm[32].

A special situation is noted in the case of pieces from the southern area of the Bug which, although fragmentary, are characterized by their large dimensions. The preserved fragments indicate that the whole pieces of this type were between 150 and 250 mm in height. The situation must be seen in connection with the "gigantism" that characterizes the ensemble of anthropomorphic and zoomorphic plastic art in this area, the situation of which the rattle-type artifacts are no exception[33].

Practically, the types in question depict at least two bird species. Some are tall and sturdy birds, others are plump and short. The analyses carried out by archaeologists in collaboration with archaeo-zoologists have indicated, for the first case, the great bustard (*Otis tarda*) and for the second, the anatids, the ducks being most often invoked.

The earliest pieces of this type come from Bernovo Luka and are assigned to the Precucuteni III/Trypillia A phase. Several such finds are also known in Cucuteni

[29] IAKUBENKO 1998: 44.

[30] BALABINA 1998: 191.

[31] BALABINA 1998: 189-192; IAKUBENKO 1998, pl. 2/6-9, 4/22-23; OVCHINNIKOV 2005, fig. 120/7.

[32] BALABINA 1998: 19.

[33] IAKUBENKO 1998: 43-47.

AB/Trypillia BII, from Iablona, Zaleščiki, Penejkovo[34]. These artifacts were regarded as closer, from a formal appearance point of view, to the aviform statuettes.

About the most numerous specimens – which appear at the late levels, Cucuteni B/Trypillia CI-CII – it has been hypothesized that developed a special, typical morphology. Such finds are reported on both the current territory of the Republic of Moldova, at Brânzeni VIII, Racovăţ and Glavăn I[35], and in Ukraine, at Kosziłowcze, Talianki, Hetmanivka 1, Pekari II and Grizorivka[36].

We note that only one find of this type is known in the area west of Prut, at Trușești. The author of the research states that, under the platform of a dwelling pertaining to the Cucuteni A (L IV) phase, it was uncovered "a rattle in the shape of a bird, with beads inside"[37], a description that indicates the finding of a whole piece. Unfortunately, it is not illustrated in any of the literature that was published over time. The find of Trușești seems to be, so far, the only known such piece in the Cucuteni phase A. Given the finding conditions already mentioned, as well as the existence of a Cucuteni B_2 level in the same settlement[38], we appreciate that it is probable that this artifact should be dated in a later period.

From the South of the same geographic area to the west of the Prut comes a piece (fig. 3/5) recently identified by us among the old finds preserved in the storage of the Museum of Moldavian History in Iași. The artifact was uncovered in the Cucuteni B_2 settlement of Podei-Târgu Ocna (Bacău County)[39], being marked as such.

The piece, fragmentary, it obviously depicts a bird. It is not modeled after the typical pieces already presented. The statuette – quite massive – is broken in ancient times, approximately along its long axis. The head and part of the body proper are preserved, while its back part is missing. The dimensions of the preserved fragment are: H=74 mm; L=84 mm; w=32 mm. Given the sturdiness of the item, one cannot exclude the possibility

34 BALABINA 1998: fig. 98/1-5; 99/1.

35 BALABINA 1998, fig. 100, 101, 102/1.

36 HADACZEK 1912, t. XX/172; BALABINA 1998, fig. 102/1; KIOSAK *et al.* 2014a: 67-72, fig. 3-4; 2014b; OVCHINNIKOV 2014: 109, fig. 120/5, 7.

37 PETRESCU-DÎMBOVIȚA *et al.* 1999: 36.

38 PETRESCU-DÎMBOVIȚA *et al.* 1999: 23.

39 The Cucuteni B_2 settlement on this site has been investigated by relatively small scale soundings as early as the interwar period by C. Matasă. The research was resumed in the last decade of 20th century by Șt. Cucoş, D. Monah and S. Antonescu. Although these investigations have not went beyond the status of information soundings, the settlement at Podei came to be regarded as of particular importance in defining the Cucuteni B_2 stage. The three copper mattocks discovered here allowed the definition of the eponym type, *Tg. Ocna*. Some ceramic materials also uncovered here allowed the argument for the synchronicity of the settlement with some Cernavoda I sites (cf. MONAH, CUCOŞ 1985: 153 and the bibliography; for axes, with updated bibliography, see: MAREŞ 2012: 335-338.

of its intentional breakage, possibly in an "enchainment" ritual, as defined in the literature[40] or perhaps simply for the curiosity of opening the inner cavity.

The head is placed on a well-defined neck. The subtly defined beak is blunt and rounded. The eye is rendered by means of a perforation of approximately 3 mm in diameter that crosses the bird's head. A similar way of rendering the eyes is found in other aviform pieces, either statuettes or protomes (Luka Vrublevetkaia, Druţa I)[41]. At the juncture of the neck with the body proper, the dewlap is typical of the aviform representations, as we can see in other types of such pieces presented above, coinciding, in this case, with the bird's careen. The bird does not have feet/stem, a situation that particularly singles out this piece.

Axially, the cavity in which the beads were placed occupies only a small portion of the bird's body proper: from the preserved length of 84 mm, it is preserved for only 22 mm. However, the cavity is quite extended vertically, as it has a fairly large diameter, occupying 32 mm of the total 48 mm of the body proper. These features lead us to include the piece in the sub-type of aviform statuettes with an inner cavity. The inner surface of the cavity has not received any special treatment.

This find is unique so far in the cultural area analyzed. Similar finds are known in later eras in neighboring cultural areas[42].

There is another piece (fig. 3/1) that stands apart within this type of bird-rattles. It was discovered in Grebeni and it was interpreted as depicting a bird's head[43]. Believed to be a the head of a tufted duck (*Aythya fuligula*), the piece is ovoid, vertically positioned on a short cylindrical stem, slightly flared at the base, interpreted as the bird's neck. The rear of the piece was thought as rendering the tuft typical for certain species of ducks. The sharp conical beak has a slight thickening in the upper part, similar to the one present in the morphology of certain species of ducks, such as the Muscovy ducks. The eyes are represented by obvious punctual impressions.

Harnessing the power of sound and allowing a sensory approach to the Cucuteni-Trypillia world, the identified subtypes of rattles have different sounds in terms of pitch, duration, quality and intensity. The artifacts of the closed container subtype produced an extremely powerful rattling, heard from long-distance, which is why we assume that they were used in various public ceremonies involving the presence of an audience.

In the case of the pieces classified as aviform statuettes with inner cavities, the sounds these produced when shaken could be heard only a short distance from the person using/shaking them. In this case, we appreciate that their role was to produce noise, but not in public ceremonies or, perhaps, not to people's ears. We appreciate that their role was

[40] CHAPMAN 2000.

[41] BALABINA 1998: 147, fig. 83/5; 84/5.

[42] GUBA, SZEVERÉNYI 2007

[43] BALABINA 1998: 191, fig. 99/2.

to accompany – with their characteristic rattling – certain ritual activities, that these could have an apotropaic role and that their sounds were intended for entities from other worlds, gods, spirits or even demons.

1d. The Ocarina-type aviform statuettes (fig. 2/1-2)

The Ocarina-type aviform statuettes are a relatively recent type mentioned in literature[44].

Ocarina is a popular musical wind instrument which, properly manipulated, emits whistle sounds. Its most common form is ovoid-elongated. Depending on the desired sound effect, as well as on other considerations that are probably both aesthetic and, with great probability, of some symbolic meaning, the shape of the ocarina is variable, including aviform.

The specific feature of the instrument is a hole/slit on one end, in which the player blows, as well as several holes on the body proper, which the player can close with the fingers, like a whistle, changing the pitch of the sound.

Regarded as the oldest musical instrument known by humanity, ocarina is known on a wide geographical area starting from India and China, covering Central Africa and Egypt, Pre-Columbian America and Europe[45].

Such pieces are still found today among traditional musical instruments, made of wood (especially plum-tree), ceramic and metal.

The only ocarinas in the analyzed cultural area and timeframe are aviform. Up to now, only two pieces of this type are published (fig. 2/1-2). Both are results of older research in the northeastern area of the Uman region and from the Suskivka settlement in the same geographical area [46]and are dated Trypillia BII-CI.

Although both finds are preserved partially, these include the air passages specific to ocarinas pieces. These were also hollow.

2. THE AVIFORM CONTAINERS

This important category of artifacts includes several types of pieces: a) Askos-type aviform containers, b) Vessels with aviform protomas, c) Vessels with aviform handles, d) Vessels with bird attributes (see Table 1).

[44] IAKUBENKO 1998: 53-54, fig. 3/13-14).

[45] "History of the Ocarina": https://web.archive.org/web/20130313064537/http://ocarinaforest.com/info/ocarina-history/; https://en.wikipedia.org/wiki/Ocarina.

[46] IAKUBENKO 1998: 53-54, fig. 3/13-14.

2a. The askos-type aviform containers (fig. 4/1-6)

The containers of this type are very rare ceramic forms. In the entire area of the analyzed cultural complex only 6 sites are known for such type of finds, amounting to 10 items. These are specific to a defined, early chronological horizon, Precucuteni II/Trypillia A – Cucuteni A/Trypillia BI. These are present in precucutenian settlements located both west (Isaiia) and east (Coşerniţa, Luka Vrublevetkaia) of the Prut. On the chronological level Cucuteni A, these type of finds are limited only to the southern area of the analyzed cultural area (Ariușd, Poduri, Brad). The morphology of these containers is varied, with both schematized forms and naturalistic vessels known, with shape and/or decoration that obviously depict bird-like elements.

The majority of these artifacts[47] have a flat bottom, a typical "askoid" body (flattened ovoid, slanted vertically) and in general a sloped mouth, located on the side, asymmetrically, sometimes open directly from the vessel body, sometimes positioned on a cylindrical neck[48]. Some containers have an arched handle that connects the mouth to the base of the bowl[49] (fig. 4/1), others have small button-ears doubling as plastic decoration[50] (fig. 4/2).

A find which shape stands out of the usual pattern was discovered in the site of Poduri[51] (fig. 4/5). Consisting of a naturalistic, obviously aviform representation, its the lower half is in the shape of a truncated cone, while its upper half (neck) is cylindrical. The tail of the bird – short and rounded – is located on the maximum diameter, at the joint of the two components of the vessel. Two diametrically opposed conical protrusions – approximately halfway down to the bottom, at the base of the neck – depict the wings.

The decoration of the askos-type containers is varied. Some pieces are plain. Others show incised motifs, notches, dimples and grooves that indicate the plumage or highlight some morphological parts of the bird (tail, wings, neck). The white and/or red painting complements and/or doubles the decorative motifs[52] (fig. 4/3, 6).

Dimensionally, the largest pieces reach 250 mm in height[53]. There exist also miniature variants (with heights ranging from 35 mm to 80 mm[54] (fig. 4/1-2).

It has been hypothesized that, in general, the items discovered in the analyzed cultural area were crafted locally following Southern models[55]. The closest analogies of

[47] MARCHEVICI 1996: 253, fig. 253, fig. 1/1; MONAH *et al.* 2003: 115, 159, cat. 94; 169, cat. 143.

[48] Most likely, in our opinion, the items with cylindrical necks had bird head-shaped caps. Unfortunately, until the discovery of such pieces, our assertion remains on the level of supposition.

[49] URSULESCU, TENCARIU 2006: 123, cat. 39).

[50] SZTÁNCSUJ 2015, pl. CCXXXVI/1-3.

[51] MONAH *et al.* 2003: 227, cat. 321.

[52] MARCHEVICI 1996: 253; MONAH *et al.* 2003: 159, 169.

[53] MONAH *et al.* 2003: 159, cat. 94.

[54] STRATULAT *et al.* 2008: 235-236, cat. R178, R179.

[55] BEJENARU, MONAH 2014: 428-430.

these vessels must be sought in the southern cultures of the neighboring regions (Gumelniţa-Karanovo VI, cultural aspect Stoicani-Aldeni, Sălcuţa-Krivodol). Following the emergence routes of the first Neolithic cultures, their origin points to Anatolia and even to Middle East, in Mesopotamia and Elam[56].

2b. The vessels with aviform protomes (fig. 5-7)

The second type in this category, probably the most commonly encountered, is the one of vessels with aviform protomes. Within this type one should differentiate between *containers* and *lids*.

In the case of the actual vessels, the protomes could be applied to the body or to the rim (fig. 5/1-6). As a crafting technique, in the vast majority of cases, the vessels were modeled separately in standard shapes and the protomes were added later.

This type of artifact is not frequent. Up to now, from the entire reference area, only one vessel (fig. 5/5) from the Cucuteni A_2 settlement of Poduri[57] was reconstructed to shape. The vessel, a true masterpiece, is a short-stemmed cup that has a protome applied on its maximum diameter, which depicts a long-necked bird with well-defined head and beak. The painted decoration of the protome is seamlessly integrated with the decoration of the vessel. The inner surface of the cup is also painted, using similar motifs.

From the series of rim-placed protomes one should mention a piece (fig. 5/3) from a Cucuteni B_1 level in the site of Mărgineni, which is also a masterpiece[58]. This find shows a unique protome, illustrating an extremely realistic duck/goose head. Demonstrating a remarkable artistic talent, the piece was decorated with black painting, barely visible now.

A relatively recent find in the Cucuteni A_3 settlement on Ruginoasa (Iaşi County)[59] is a protome (fig. 5/1) that is integrated in the series of pieces molded on the vessel body. It was made on the body of a medium-sized or even small, nowadays fragmentary, vessel. It is a bird's head with a relatively sharp beak, placed on a long neck. The aviform representation is H=47 mm; w=12 mm. Its general appearance is reminiscent of that of the bird on the cup of Poduri. The Ruginoasa fragment does not preserve traces of painting, but seems to have been decorated with incisions. An obvious incised line decorates one of the surfaces of the bird, starting from around the eye. We do not exclude the possibility that this piece was part of a vessel classified in the species characterized by the presence of the incised and hollowed decoration, with point impressions, specific to the same chronological level as the Ruginoasa settlement.

The protomes modeled with the vessels' bodies generally depict the head and neck of birds. In exceptional situations, the body is also included. An example in this respect is

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[56] NIȚU 1972: 21-28; DRAGOMIR 1983: 80-81; MARINESCU-BÎLCU 1990; VOINEA 2005: 46-47.

[57] MONAH *et al.* 2003: 182, cat. 178.

[58] NIȚU 1976: 49-52, fig. 1.

[59] This find was not published in the monograph of the site.

a find in the Cucuteni B_1 settlement in Ghelăiești. Although stylized, this protome (fig. 7/2) depicts both the head with neck and the anterior part of a bird's body. The open wings are modeled as small conical protrusions[60]. The piece, which was most likely attached to the body of a vessel, was decorated with motifs painted with black-brown and white.

As for the protomes applied on lids (fig. 6; 7/1, 3-4), beyond their aesthetic and symbolic meanings, these represent functionally the handle of the lid. Unlike the protomes on vessels, these depict the entire body of the bird. There are practically small aviform statuettes, made more or less schematically, which were applied on lids after their modeling[61]. Most frequently, the cylindrical stem of the statuette is affixed as a dowel on the perforated dome of the lid. The joining area is smoothed with a thin layer of clay (then covered by the slip and the paint layer).

An extremely schematic version of this type, rarely encountered, consists in the typical rounded buttons of precucutenian lids which, through incised decoration and small morphological details, suggest a bird-like shape. An example in this respect is a piece discovered at Mândrişca[62] (fig. 7/3), which seems to be, in our opinion, a bird of prey with short and sharp beak and penetrating eyes.

In this typological series there are two other original finds from the Cucuteni A_3 settlement in Scânteia (Iaşi County), which we present in the following.

The first of these depicts a realistic and artistic representation of a bird, with trichrome paint (fig. 6). The model is most likely a water bird with short slightly rounded tail and folded wings, positioned on the dome of a fragmentary lid. It was found in dwelling 13.

The body of the aviform representation is extremely naturalistic, in horizontal position. The bird has a short neck, with the typical depiction of a dewlap. The beak was broken at the time of the discovery. The tail is short and pointed. The dimensions of the piece are: H=36 mm; L=42 mm; w=28 mm. It is painted with alternating white and red ribbons, with black-chocolate outlines that accompany and highlight the bird's morphology. The decor is made symmetrically on the two sides of the piece. On the crown of the head, painted, the bird has a thick red line, which divides the head into two registers, similar to the one that divides the area of the spine. The back itself is decorated with a "herringbone" motif with the opening towards the neck and head. The neck is decorated with a red stripe outlined in black-chocolate. The aviform representation fits perfectly with the decoration of the lid. It is depicted in the middle of a decorative field consisting of four cream-white ellipses outlined in black-chocolate. The interspaces around this decoration are filled with red hatching. It is certainly the most mastery representation of this type

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[60] GARVĂN 2011: 172, pl. IV/1.

[61] GARVĂN 2011, pl. III/5; IV/3-4.

[62] MARINESCU-BÎLCU 1974, fig. 83/5.

known to date. In terms of morphology and mode of rendering of the aviform figure this piece has its closest analogies in certain finds from Fulgeriş[63]

The second unpublished piece depicts a crested bird (a tufted duck?) with folded wings and rounded tail (fig. 7/4). Its body is in a slightly oblique position. The neck is short. The head modeled by pulling from the body has a triangular beak. The bird's spine, wings and crest (partially broken at discovery) are outlined by fine longitudinal ribbing. Its dimensions are: H=58 mm; L=58 mm; w=1.9 mm. It was discovered in dwelling 9.

In this case, only the aviform figurine was preserved, detached from the lid, a situation that allows for some technological observations. Analyzing its cylindrical stem, it is obvious that it has been integrated into an ensemble after it has been modeled. The lower part of the stem functioned as a dowel pin.

The protome was covered with cream-white painting. The lower part of the stem still preserves a brown-painted ring that separates the bird from the lid in terms of decoration. In terms of morphology and mode of rendering of the aviform figure this piece has its closest analogies in certain finds from Izvoare[64].

It is interesting to note that this category of artifacts is currently known only in the western area of the analyzed cultural area. Most of the finds come from early, Precucutenian, settlements (Traian-*Dealul Viei*, Costişa, Mândrişca and Izvoare) or Cucuteni A sites (Poduri, Bârlăleşti-Sturza, Gura Văii-*Silişte*, Ruginoasa and Scânteia). The presence of such finds in later levels, Cucuteni B (Mărgineni and Ghelăieşti), is an extremely rare occurence.

We would like to emphasize that lids with protomes are specific only to early levels.

2c. The vessels with aviform handles (fig. 8/2)

A last category of aviform "in the round" representations is the one of bird-shaped handles. Like the lid buttons, the vessels' handles have multiple valences, both utilitarian and aesthetic, and certainly symbolic. There are few such finds published in the literature, and often, when their aviform interpretation is indicated, this is, as has already been said, largely based on the discoverer's imagination[65].

However, we believe that some of these pieces have definitely aviform attributes[66].

We would illustrate this type with a find from Mitoc-*Pârâul lui Istrati*[67] (fig. 8/2). The flat, crescent-shaped handle, with downward opening, has a horizontal perforation

[63] ISTINA, PLĂCINTĂ 2018: 113-114, fig. 6-7.

[64] VULPE 1957, fig. 226/4.

[65] GARVĂN 2011: 173.

[66] DUMITROAIA *et al.* 2009: 113, cat. 238.

[67] The Cucuteni A settlement Mitoc-Pârâul lui Istrati (Botoșani County) was investigated through small-scale soundings by V. Chirica, D. Monah and D. N. Popovici in the last decades of the last century (cf. MONAH, CUCOȘ 1985: 119). The original find is in the collections of the Botoșani

that depicts the eye/eyes of the bird. It was covered with white-yellow slip, similarly to the base paint-layer of the vessel, and had some morphological elements highlighted with brown paint and by incisions. Although schematized, the short incisions – which sometimes can be regarded as notches – made on the top of the head and beak of the bird-figurine, seem to depict, in our opinion, a bird of prey.

2d. The vessels with bird attributes (fig. 8/4-5)

The finds grouped under this name are vessels of various types that exhibit – generally on their maximum diameter – prominences that can be interpreted as depicting various bird body-parts (head, tail, wings). Such finds are extremely rare. Up to the present we have identified five such vessels[68] in sites spread across the southern area of the analyzed cultural complex. The finds of Mărgineni-Cetăţuia, Oleksandrivka, Rogojeni-Gară, Ruseştii Noi and Iablona cover the period Precucuteni III-Cucuteni AB[69].

The find of Rogojeni-Gară (fig. 8/4) is a oval-shaped cup placed on a short cylindrical stem[70]. Its decoration of incised motifs and grooves is typical for the Precucuteni III/Trypillia A phase. On its small diameter there are two slightly asymmetrical protrusions that can be interpreted as wings. A bifurcated protrusion is modeled on the maximum diameter of one of the ends, representing the tail of a bird. Unfortunately, the opposite end is missing. Obviously depicting an aviform representation, the find was interpreted as representing the body of a waterfowl (male duck) with a split short tail of twisted feathers[71].

The piece from Mărgineni (Cucuteni A_2) is also of oval shape (fig. 8/5). Two small protrusions are modeled on its maximum diameter, most probably depicting the head and tail of a bird. The vessel is decorated with tri-chrome painting, with garlands reserved from the red background, bordered with black and white in interspaces[72].

3. Domestic implements with aviform handles (fig. 8/1, 3)

Some of the best-crafted aviform representations have been molded or sculpted on the ends of spatulas, spoons, or ladles. Only a few pieces in this typological category have

County Museum. It was recently been reported to us by Dr. Adela Kovacs, to whom we would like to express our gratitude.

68 A sixth piece, which is nowadays lost, was uncovered in a vaguely located Cucuteni AB settlement in Ukraine, near the Dniester, and is mentioned by V. Marchevich as being found by V. Danilenko (MARCHEVICI 1996: 260, note 6).

69 MARCHEVICI 1996: 255-256, fig. 1/2; STRATULAT *et al.* 2008: 94, cat. R74.

70 MARCHEVICI 1996: 255-256, fig. 1/2.

71 MARCHEVICI 1996: 255-256, fig. 1/2.

72 STRATULAT *et al.* 2008, 209, cat. R74.

been preserved up to the present time (see Table 1). We would mention the finds of Izvoare, Costişa, Târpeşti and Vlădeni[73].

One should emphasize that these represent an artistic expression that is only particular to the early, Precucuteni levels.

The handle of Târpeşti bone spatula (fig. 8/3) is a real masterpiece and it argues for the existence of aviform depictions in other materials than ceramic[74]. This piece is the only one preserved, but there were a lot of other similar pieces made of bone or even wood or antler, that did not survived the passage of time.

4. PAINTED AVIFORM REPRESENTATIONS (FIG. 9-11)

This last category of aviform representations appears *only* in the late levels, Cucuteni B/Trypillia CI-CII, when the painted decoration starts to include depictions of various species of the animal world, the most frequently illustrated being mammalian predators and snakes[75]. There only few known representations in this category as well, and the number of sites that provided such finds is approximately 20 in the whole area of interest (see Table 1). The number of actual representations is, however, higher, because in almost all cases a settlement provided two or more finds.

The bird depictions are integrated into the geometric decorative compositions that are characteristic of this period pottery[76]. They are represented either alone, individualized in medallions (fig. 9/5-8), or included in narrative strips along with various decorative elements or other creatures[77] (fig. 9/6; 10/4-5; 11/1-2). The birds are rarely depicted in stylized pairs or flights. They are in a schematic manner, from the side.

Painted mainly with black or chocolate-brown, the aviform silhouettes are filled-in or just outlined. On should mention that in most situations in which the shape of the vessel on which the silhouettes of birds can be reconstructed with certitude, the bird-bearing vessels are amphora-type, and the aviform depictions are located within metopae painted on the upper half of the container, generally on its shoulder (fig. 9/6; 10/2, 4; 11/2).

The painted birdlife themes depict birds in flight, swimming or even resting[78]. The semantic analysis of aviform decoration allowed the demarcation of certain recurrent associations and themes (the bird and the "tree of life" (Suskivka, Jvaneţ), the bird and the

[73] VULPE 1957, fig. 81/3; MARINESCU-BÎLCU 1974: 103, fig.85/1, 3; GARVĂN 2011: 173, pl. IV/5-7.

[74] MARINESCU-BÎLCU 1974: 103, fig. 85/1.

[75] NIŢU 1975b; DUMITRESCU 1979: 57-68.

[76] NIŢU 1975b.

[77] MARCHEVICI 1981: 25, fig. 24/13=fig. 26=27/2.

[78] MOVŠA 1965; NIŢU 1975b; BOGHIAN, MIHAI 1987.

sun (Vîhvatinți), bird and the bull (Platar collection) the theme of the bird flocks in flight (Varvarovka VIII, Vîhvatinţi, Buznea) or swimming (Ştefăneşti).

In general, the painted decoration of the vessels illustrates various ritual or mythological scenes, possibly cosmogony ones.

A scene representing two long legged birds, apparently rotating one around the other, painted on a ceramic fragment from Jvaneț[79] (fig. 9/11), can be interpreted as illustrating a dancing posture of some cranes, as they are also rendered and in the images of Çatalhöyük, Göbekli Tepe and Bouqras[80]. On the Jvaneț fragment, the right silhouette is depicted from the side, the left one, while the left one from the side-back with one leg slightly flexed.

The dance of the cranes seems to have been fascinated mankind throughout history. Its social function does not seem to be very clear. It is, however, certain that it was imitated in special mimetic ceremonies. The symbolism associated with cranes varied in different eras and in different cultures. Positively, the cranes were linked with longevity, fidelity, femininity, changing seasons (in connection with their migration), fertility, happiness and luck, to name just a few of the significances assigned to them. In the negative, they were considered to be bad luck and to have evil powers[81].

There are cranes that seem to be depicted on another ceramic fragment from the same settlement[82] (fig. 9/3). Two silhouettes, similarly rendered, are depicted from the side in this situation, in oval medallions typical of ceramic of this chronological level, facing each other. Interestingly, their long legs have fingers sketched at the lower end.

The role the cranes played in the lives of the human communities is difficult to assess. However, one would point out that among the few artifacts made from bird bones identified in the archaeological discoveries pertaining to the prehistoric civilization under scrutiny there are two bone pipes made of crane (*Grus grus*) wing bones[83]. Similar situations have been highlighted in other Neolithic settlements in the Near East[84] and have been interpreted as playing a symbolic role.

FINAL CONSIDERATIONS

As one can see, the painted decoration, as well as the sculptural depictions, show several mostly frequently aquatic bird species. In addition to those already mentioned (ducks, geese and bustards), the specialists identified pheasants, partridges, quails, pigeons,

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79 BURDO 2004: 394.

80 RUSSELL, McGOWAN 2003.

81 RUSSELL, McGOWAN 2003.

82 MOVŠA 1965, fig. 2.

83 OLENIUC 2013: 63, fig. 10.

84 RUSSELL, McGOWAN 2003.

cranes, egrets, storks or herons. Some pieces can be interpreted as predatory birds (eagles, hawks and kites are indicated most frequently)[85].

What was the place and role of these representations in everyday life, either sacred or profane? What was the symbolism embedded in these pieces? The information available to the present date is quite inadequate. Based on these data (as well as on more generous analogies from other periods, or generated by anthropological investigations), one can only point to certain directions of analysis and interpretation, by means of various interrogations.

In the over 130 years passed since the first finds, it has been documented – with a large corpus of hard data – that during its existence of nearly two millennia (approx. 5400-2750 BC)[86] the Precucuteni-Ariușd-Cucuteni-Trypillia cultural complex communities have created a civilization of an incontestable originality, characterized by advanced knowledge and exceptional achievements in many fields. An intense spiritual life illustrated by numerous artefacts of specific character, constructions and buildings, complements in general the image of a civilization in which the sacred is constantly and continuously interwoven with the profane, both in daily life and in special moments we can only sense or reconstruct only partially, but about the existence of which we have no doubts.

From the above presentation, it is certain that the birds have been organically integrated into the lives of prehistoric communities. However, it is difficult to reconstruct and delineate at this time whether and to what extent they played a role in the daily diet or in ritual feasts, whether the birds were physically or symbolically present, indirectly by means of their feathers or even wings, and what were their value in cosmogony, mythological or ritual activities.

Descending in time on the genetic thread of the analyzed civilization, we find that the aviform representations do not feature in the imaginarium of the communities that contributed to the advent of Cucuteni-Trypillia (the Boian culture – Giulești phase and the Linear Pottery culture). Instead, the birdforms are known at different chronological levels in neighboring cultural areas (Stoicani-Aldeni, Gumelniţa-Karanovo VI, Petreşti, Sălcuţa-Krivodol-Bubanj) with which the Cucutenians and Trypillians interacted directly or indirectly[87].

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[85] MATASĂ 1946: 83; MOVŠA 1965; CRÎȘMARU 1977: 75; MARINESCU-BÎLCU, BOLOMEY 2000: 141 -142; BEJENARU, MONAH 2013; ISTINA, PLĂCINTĂ 2018: .114.

[86] KLOCHKO, KRUTS 1999; VIDEIKO 1999; LAZAROVICI 2010.

[87] ALDEA 1974; DRAGOMIR 1983: 102-103, fig. 55/9-10, 12; 56/1; PAUL 1992: 102, pl. L/11; COMȘA 1999; 2002; HANSEN *et al.* 2006: 42, abb. 90; TERZIJSKA-IGNATOVA 2007: 233-234, fig. 3/1015; ANDREESCU 2012.

Birds have been present in the Neolithic imagery since its crystallization[88], as the aviform symbolism is rooted in the collective mindset of the Paleolithic communities[89]. The finds of Çatalhöyük document, both through painted images and exceptional archaeozoological discoveries (bones and feathers in anatomical connection, indicating the presence of wings mounted most likely on some ritual costumes), the fact that eagles and cranes, but also waterfowl played a major role in the symbolic world of some of the most ancient Neolithic communities[90].

Back to the Cucuteni-Trypillia universe, a recent analysis of bird skeletal remains from several sites in Ukraine revealed that more than 20 bird species were hunted and utilized[91]. The most common were waterfowl (duck, goose and coot), large Galliformes (capercaillie and black grouse), gray crane and bustard. In the Romanian area, archaeozoological studies have identified only sparse finds of bird skeletal remains[92]. The situation, which most probably does not reflect the prehistoric reality, seems to be due to both the conditions of preservation in the soil and the methods of collecting bone remains[93].

An archaezoology analysis carried out for the area of Ukraine showed that within the corpus of bird bone finds a relatively high percentage (i.e. 8.3% and 3.6% respectively of the Minimum Number of Individuals (MNI)) belongs to birds of prey and nocturnal birds[94]. The situation, which finds only rare analogies in pre- and proto-historic discoveries, indicates that the birds were not hunted or captured for culinary purposes, but more likely to be used directly or indirectly (through the symbolism of feathers or even whole wings) in various ceremonies and ritual activities[95].

In the same symbolic paradigm one can integrate – with the greatest probability – the finds presented in present paper.

In our final considerations, we note that although most aviform representations are made of high quality and well-fired ceramic, bone (fig. 8/3) and sun-dried clay (fig. 2/6) pieces are reported as well. One can assume with great probability that such pieces were more numerous than those that were uncovered by excavation and that these could have been made from other raw materials as well, of organic nature, and the wood was with great certainty the material of choice[96]. This conclusion points out to the existence of

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[88] MELLAART 1967; PETERS *et al.* 2005; RUSSELL, McGOWAN 2003; RUSSELL 2018.

[89] CAZACU-DAVIDESCU 2016.

[90] MELLAART 1967; RUSSELL, McGOWAN 2003; RUSSELL 2018.

[91] KOVALCHUK, GOROBETS 2015, table 2.

[92] BEJENARU, MONAH 2013: 424.

[93] BEJENARU, MONAH 2013: 424.

[94] KOVALCHUK, GOROBETS 2015: 7-8, table 2.

[95] Hawking was not known at this chronological level.

[96] Although there are no wooden artifacts preserved, there are miniature ceramic pieces that imitate different pieces of furniture (tables, chairs), household utensils (spoons, troughs) and even means of

certain categories of artifacts deliberately designed to have a short-lived existence, a situation noted as well for other categories of artifacts that have a role in the symbolic life of the analyzed communities[97].

The aviform representations cover a large and varied typology, being statuettes and containers, protomes on various types of vessels, rattles or even ocarinas, as well as painted silhouettes illustrating various scenes. These depictions feature within the whole evolutionary timeframe of the Precucuteni-Ariușd-Cucuteni-Trypillia cultural complex, as early as Precucuteni I and as late as the most recent phase, Trypillia CII. One should also consider the fact that the modes of artistic expression change over time. The oldest representations are, most often, protomes or handles. The most recent are rattles, painted silhouettes, or even ocarinas. Although rare, bird statuettes appear constantly in all phases and stages of this cultural complex. In terms of vessels, these seem to be a feature specific to the early phases and stages.

The birds are depicted in flight, swimming or resting, in the latter case with or without visible legs. Are they connected to the same symbolic meanings or should these be interpreted differently?

In order to be able to answer this question, one should approach, firstly, the contextual analysis. Unfortunately, in most cases, the finds presented here originate either from older discoveries, which are partially or not documented, or from contexts that are irrelevant to the case. We do not have multiple sets of data that we may be able to interpret comparatively. Even in these circumstances, we believe that we are not wrong if we assert that these pieces had different symbolic values.

The ability of flight that birds have, as well as their ability to reach places often inaccessible to other creatures, allowed the human imagination to give them the role of mundane or sacred messengers, linking men and gods, our world and other, imaginary, worlds[98]. It has been appreciated that birds have also polarized people's attention because they have certain attributes (bipedal locomotion) or perform certain activities (singing, dancing) that humanize them and bring them closer to our kind, more than any other beings[99].

In certain mythological texts the birds stand for the soul, the transcendence, the ancestral spirits, the journey of the souls of the dead from the earth to other worlds, sometimes having a psychopomp role[100].

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transportation (boats, sledges), which document indirectly the existence of extremely skilled woodcraftsmen.

[97] For a short history of the assessments made on the usage timeframe of anthropomorphic plastic art, corroborated with its materials and crafting, see: ȚURCANU 2013: 56.

[98] CHEVALIER, GHEERBRANT 2009.

[99] RUSSELL 2018: 1.

[100] CHEVALIER, GHEERBRANT 2009; MOREMAN 2014.

Equally, the birds were connected with fertility, longevity, or to the life itself, embodying ascension to and communication with or being even substitutes of the heavenly divinities or even the Sun.

Migratory birds were those that were symbolically connected with the passage of time or the succession of seasons. In this way it was construed the painted decoration on the artefacts in the sanctuary-house of Buznea (fig. 11/1-2), illustrating the coming of spring, the rebirth of nature and life and the beginning of a new cycle of vegetation[101].

The aviform symbolism is equally connected to the shamanic practices that involve flying to the non-earthly worlds, either celestial or Chthonian[102]. Feathers are part of most of the shaman costumes. Sometimes the costume indicates a night bird (owl), and other times represent a predator (eagle or vulture). Often the shaman costume includes a pair of wings. Most likely, this is the key in which one must interpret the surprising presence of skeletal remains belonging to birds of these species in the archaeo-zoological inventory of the analyzed communities[103], particularly since the usage of wings anatomically detached from the bird's body is documented since the beginning of the Neolithic[104]. Are the aviform artifacts the reflection of the usage of ritual costumes, or even the epiphany of a Bird goddess, about the existence of which argue some of the most reputable specialists of the history of religions[105]? The statuettes were most likely used in various ritual scenes (fig. 13)[106], with a precisely defined role that can only be guessed today. To indicate the functionality of this category of artifacts, one should take into account that, in the ecstatic trips involving a rise to heaven, among the ritual objects that constitute the shaman's *paraphernalia*, there are many bird figurines, which illustrate the symbolism of ascending to the other world[107].

Among the ceramic vessels, the *askos* pieces are the only ones that can provide relevant data regarding the context of the find. On the chronological level of Precucuteni II, a vessel (fig. 12/2) that was interpreted by some specialists as *askos*[108], was the container holding the items that made the cult complex of Isaiia[109]. The same type of vessel was holding the items of the Brad prestige hoard (fig. 12/1), dated to Phase A of the Cucuteni culture[110].

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[101] BOGHIAN, MIHAI 1987; BOGHIAN 1995.

[102] ELIADE 2017: 155-157.

[103] KOVALCHUK, GOROBETS 2015, table 2.

[104] RUSSELL, McGOWAN 2003; RUSSELL 2018.

[105] GIMBUTAS 1982: 112-151.

[106] See e. g. https://www.historymuseum.ca/cmc/exhibitions/aborig/tsimsian/shawi01e.shtml.

[107] ELIADE 2017: 228.

[108] MONAH 2012: 48.

[109] URSULESCU, TENCARIU 2006: 83, cat. 1.

[110] URSACHI 1990: 337-338, fig. 5-8.

These two containers have similar analogies in the southern area, which pertains to the Gumelniţa culture[111], analogies that include also the role of ceramic containers intended for storing certain categories of precious objects, endowed with symbolic value. It has also been hypothesized that the *askos*-type have illustrated a sacred bird (duck) and that these vessels may have been connected with an heaven cult, indicating the existence of a divine aquatic birdlike image that was meant to carry the Sun across the heavenly vault in its daily travel from sunrise to sunset[112].

For the Bronze Age, there are several types of analyzes and interpretations for *askos* carried out for the neighboring cultural areas, which interpret these as recipients associated with sacrificial rites. Analyzes of organic residues found in such a vessel indicated the presence of animal proteins with a high iron content, which implies the presence of blood[113].

At the same time, it has been suggested that these vessels, or even the vessels with aviform protomes, may have contained special liquids, precious and indispensable for performing rituals, possibly with psychoactive properties. The consumption of such substances is frequently in many ritual or religious activities, and of significance in various shamanic practices. One of the most important elements of the "journey" of the shaman, or his "flight", which helps him reach the trance state, is these substances. During this process, protective spirits (often in the form of birds) play an important role[114] (fig. 14).

As we have already pointed out, both the rattles and the aviform ocarinas are special types of musical instruments which purpose was to impose a certain rhythm or to accompany, by their sound, certain ceremonies or ritual dances. We can assume, using the analogies, that some items played an apotropaic role, serving to invoke the protection of supernatural powers or to remove evil spirits or dark forces. We reject the hypothesis that these were used as toys.

At present, however, there are only scarce archaeological data that can support any of the mentioned hypotheses, and these are quasi-nonexistent in the Precucuteni-Ariuşd-Cucuteni-Trypillia cultural complex.

In addition to the presentation of new archaeological finds, brought to light in the recent years, the objective of our paper was to indicate some directions of research and interpretation of aviform symbolism in the imaginary universe of Cucuteni-Trypillia.

The topic is fascinating ... We hope that future, more relevant, discoveries, or better-documented theoretical approaches will allow for a more nuanced interpretation.

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[111] CÂRCIUMARU 1985; MARINESCU-BÎLCU, CÂRCIUMARU 1992.

[112] MARCHEVICI 1996: 255-256; BEJENARU, MONAH 2013: 430.

[113] GUBA, SZEVERÉNYI 2007: 87.

[114] GUBA, SZEVERÉNYI 2007: 87-88.

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Table 1. Archaeological sites from Precucuteni-Ariușd-Cucuteni-Tryipllia cultural complex with aviform representations (x=present)

No.	Site name	Cultural affiliation	Aviform Representations						Bibliography
			Protoma	Statuette	Spoon handle	Container	Painted	Rattle	
1.	Traian-*Dealul Viei* (Neamț county, Romania)	Precucuteni I	x						MARINESCU-BÎLCU 1974, p. 103, fig. 83/1.
2.	Isaiia (Iași county, Romania)	Precucuteni II				x			URSULESCU, TENCARIU 2006, p. 82-83, 123, fig. 14/3.
3.	Larga Jijia (Iași county, Romania)	Precucuteni II	x						MARINESCU-BÎLCU 1974, p. 164, fig. 83/3-4; 88/6.
4.	Mândrișca (Bacău county, Romania)	Precucuteni II	x						MARINESCU-BÎLCU 1974, fig. 83/5.
5.	Mihoveni (Suceava county, Romania)	Precucuteni II	x						BATARIUC, URSU 2009, p. 108-109, fig. 2/3.
6.	Bernovo-Luka (Ukraine)	Precucuteni III		x				x	PASSEK 1961, fig. 4/1-2; BALABINA 1998, p. 147, 189, fig. 83/6.
7.	Costișa-*Cetățuia* (Neamț county Romania)	Precucuteni III	x						GARVĂN 2011, p. 173, pl. IV/5.
8.	Coșernița (Soroca county, Rep. of Moldova)	Precucuteni III				x			MARCHEVICI 1996, p. 253, fig. 1/1.
9.	Izvoare (Neamț county, Romania)	Precucuteni III	x		x				VULPE 1957, p. 106, fig. 81/3; fig. 226/4.
10.	Luka-Vrublevețkaja (Ukraine)	Precucuteni III				x			BIBIKOV 1953, p. 61-62, fig. 40=pl. 46.
11.	Mogylna III (Gayvoron county, Ukraine)	Precucuteni III-Trypillia AIII	x	x					PERESUNCHAK, BURDO 2005, fig. 3/12-13.
12.	Oleksandrivka (Voznesensk county, Ukraine)	Precucuteni III				x			BALABINA 1998, p. 147; fig. 83/5. BURDO 2004, p. 384; BEJENARU, MONAH 2014, p. 428, fig. 3/1.

13.	Putinești I (Soroca county, Rep. of Moldova)	Precucuteni III		x					BODEAN 2001, p. 84, fig. 41/2.
14.	Rogojeni-*Gară* (Șoldonești county, Rep. of Moldova)	Precucuteni III				x			MARCHEVICI 1996, p. 255-256, fig. 1/2.
15.	Ruseștii Noi (Ialoveni county, Rep. of Moldova)	Precucuteni III				x			MARCHEVICI 1996, p. 255, 260.
16.	Sabatinovka II (Ukraine)	Precucuteni III		x					BALABINA 1998, p. 147, fig. 83/2.
17.	Târgu Frumos – *Baza Pătule* (Iași county, Romania)	Precucuteni III	x	x					STRATULAT *et al.* 2008, p. 118/ R 168, p. 234; FURNICĂ 2014, p. 108, fig. 17-20.
18.	Traian-*Dealul Fântânilor* (Neamț county, Romania)	Precucuteni III		x					MARINESCU-BÎLCU 1974, p. 103, fig. 84/4=94/9.
19.	Târpești-*Râpa lui Bodai* (Neamț county, Romania)	Precucuteni III		x	x				MARINESCU-BÎLCU 1974, p. 103, fig. 85/1; MARINESCU-BÎLCU 1981, p. 49, fig. 96/4=113/3; p. 69, fig. 196/1=197/2; FURNICĂ 2014, p. 387, fig. 36.
20.	Vlădeni (Iași county, Romania)	Precucuteni III			x				MARINESCU-BÎLCU 1974, p. 178, fig. 85/3.
21.	Poduri-*Dealul Ghindaru* (Bacău county, Romania)	Cucuteni A_1-A_2	x	x	x	x			MONAH *et al.* 2003, p. 115, 159 (cat. 94); p. 169 (cat. 143); 182 (cat. 178), 227 (cat. 321); DUMITROAIA *et al.* 2009, p. 113, cat. 238; GARVĂN 2011, p. 172, pl. II/9, III/1; FURNICĂ 2014, p. 310, fig. 112.
22.	Gura Văii-*Siliște* (Bacău county, Romania)	Cucuteni A_2	x						NIȚU *et al.* 1971a, p. 67, fig. 25/2.
23.	Mărgineni-*Cetățuia* (Bacău county, Romania)	Cucuteni A_2				x			STRATULAT *et al.* 1998, p. 94/R74, p. 209.
24.	Ariușd (Erősd) (Covasna county, Romania)	Cucuteni A_2-A_3	x			x			SZTÁNCSUJ 2007, p. 190-191, pl. I/17; V/13; IX/1-2; 2015, p. 247, pl. CCXXVI/17, CCXXXII/13-14; CCXXXVI/1-3.
25.	Bârlălești-*Sturza* (Vaslui county, Romania)	Cucuteni A_2-A_3		x					COMAN 1980, p. 128, fig. 99/1, 100/7.
26.	Moacșa (Covasna county, Romania)	Cucuteni A_2	x						SZTÁNCSUJ 2015, p. 247, pl. CLVI/14.
27.	Păuleni (Harghita county, Romania)	Cucuteni A_2		x					Unpublished.
28.	Brad (Bacău county, Romania)	Cucuteni A_3				x			URSACHI 1990, p. 337-338, fig. 5-8.
29.	Cândești (Vrancea county, Romania)	Cucuteni A_3	x						FURNICĂ 2014, p. 149.
30.	Crețești (Vaslui county, Romania)	Cucuteni A_3	x						FURNICĂ 2014, p. 164.
31.	Cucuteni-*Cetățuie* (Iași county, Romania)	Cucuteni A_3	x						PETRESCU-DÎMBOVIȚA, VĂLEANU 2004, p. 175, fig. 221/1.
32.	Dumești (Vaslui county, Romania)	Cucuteni A_3	x						ALAIBA 2007, pl. 40/3.
33.	Fulgeriș (Bacău county, Romania)	Cucuteni A_3	x						ISTINA, PLĂCINTĂ 2018, p. 111-128, fig. 6-7.

34.	Hăbășești (Iași county, Romania)	Cucuteni A_3	x	x					DUMITRESCU *et al.* 1954, p. 430, fig. 39/1-2; p. 432, pl. CXIV/4, 9.
35.	Hoisești (Iași county, Romania)	Cucuteni A_3		x					FURNICĂ 2014, p. 25, fig. 25.
36.	Horodnica (Horodenka county, reg. Ivano-Frankivsk, Ukraine)	Cucuteni A_3		x					ŚMISZKO 1939, p. 70, fig. 5; BALABINA 1998, p. 147.
37.	Izvoare – *La Cenușărie* (Neamț county, Romania)	Cucuteni A_3	x						FURNICĂ 2014, p. 257-258.
38.	Mitoc-*Pârâul lui Istrati* (Botoșani county)	Cucuteni A_3	x						Published in this paper: fig. 8/2.
39.	Poienești (Vaslui county, Romania)	Cucuteni A_3	x						VULPE 1953, p. 271, fig. 47/1; LAZAROVICI, BABEȘ 2015, p. 180-182, fig. II.176/4, 6.
40.	Ruginoasa – *Dealul Drăghici* (Iași county, Romania)	Cucuteni A_3	x						LAZAROVICI, LAZAROVICI 2012, fig. VIII.24/4; published in this paper: fig. 5/1.
41.	Scânteia – *Dealul Bodeștilor* (Iași county, Romania)	Cucuteni A_3	x	x					Published in this paper: fig. 1/4; 6; 7/4.
42.	Tăcuta (Vaslui county, Romania)	Cucuteni A_3	x						FURNICĂ 2014, p. 370, fig. 30.
43.	Toflea (Galați county, Romania)	Cucuteni A_3	x						ALECSĂ 2013, p. 120, pl. XXVII/13.
44.	Trușești (Botoșani county, Romania)	Cucuteni A_3	x	x					NIȚU 1972, p. 38, 52, fig. 18/, 7; 24/6; 28/1, 7; PETRESCU-DÎMBOVIȚA *et al.* 1999, p. 549, fig. 384/2-4; FURNICĂ 2014, p. 416.
45.	Drăgușeni-*Ostrov* (Botoșani county, Romania)	Cucuteni A_4	x	x				x	CRÎȘMARU 1977, p. 74, fig. 35/5; 60/5; MARINESCU-BÎLCU, BOLOMEY 2000, fig. 164/9-10; 176/3-5, 10; 177/4, 7.
46.	Druța I (Rîșcani county, Rep. of Moldova)	Cucuteni A_4	x						BALABINA 1998, p. 147, fig. 84/5.
47.	Iablona (Glodeni county, Rep. of Moldova)	Cucuteni A-B				x		x	MARCHEVICI 1996, p. 255; BALABINA 1998, p. 190, fig. 98/1-2; 99/1.
48.	Penejkovo (Ukraine)	Cucuteni A-B						x	BALABINA 1998, p.190, fig. 98/4.
49.	Zaleščiki (Ukraine)	Cucuteni A-B						x	BALABINA 1998, p. 190, fig. 98/3, 5.
50.	Brânzeni III (Edineț county, Rep. of Moldova)	Cucuteni B_1					x		MARCHEVICI 1981, p. 41-42, fig. 57/10.
51.	Buznea (Iași county, Romania)	Cucuteni B_1					x		NIȚU 1975a, p. 45-54, fig. 1; BOGHIAN, MIHAI 1987, p. 313-324, fig. 7-8; BOGHIAN 1995.
52.	Grebeni (Ukraine)	Cucuteni B_1						x	Balabina 1998, p. 191, fig. 99/2.
53.	Ghelăiești - *Nedeia* (Neamț county, Romania)	Cucuteni B_1	x	x					NIȚU *et al.* 1971b, p. 59, fig. 24/2; GARVĂN 2011, p. 172-173, pl. II/7 IV/1.
54.	Mărgineni-*Cetățuia* (Bacău county, Romania)	Cucuteni B_1	x						NIȚU 1976, p. 49-52, fig. 1; FURNICĂ 2014, p. 271, fig. 24.
55.	Racovăț (Soroca county, Rep. of Moldova)	Cucuteni B_1						x	BALABINA 1998, p. 191, fig. 102/2.

56.	Ștefănești-*Stânca* (Botoșani county, Romania)	Cucuteni B_1					x		NIȚU 1975a, p. 45-54, fig. 2.
57.	Biały Potok (reg. Ternopil, Ukraine)	Trypillia CI-CII		x					SZMYT 2016, p. 235, fig. 8.7/2
58.	Brânzeni IV-*Tarlaua lui Ștefan*, (Edineț county, Rep. of Moldova)	Cucuteni B_2					x		MARCHEVICI 1981, p. 17, fig. 7/4; ȚERNA, HEGHEA 2017, p. 310, fig. 14/2.
59.	Brânzeni VIII-*Sâeci* (Edineț county, Rep. of Moldova)	Cucuteni B_2					x	x	BALABINA 1998, p. 190, fig. 100/1-2, 101; ȚERNA, HEGHEA 2017, p. 306-307, fig. 8/4, 10/12; 14/2.
60.	Brânzeni XI-*Valea Bucșii* (Edineț county, Rep. of Moldova)	Cucuteni B_2					x		ȚERNA, HEGHEA 2017, 320, fig. 27/2.
61.	Caracușenii Vechi (Edineț county, Rep. of Moldova)	Cucuteni B_2					x		MOVŠA 1965, p. 100-1005, fig. 1/1.
62.	Cucuteni-*Cetățuie* (Iași county, Romania)	Cucuteni B_2					x		PETRESCU-DÎMBOVIȚA, VĂLEANU 2004, p. 218-219, fig. 177/7, 184/4, 185/3.
63.	Fetești (Suceava county, Romania)	Cucuteni B_2	x	x					MAREȘ 2009, p. 148, cat. 291; FURNICĂ 2014, p. 222, fig. 68.
64.	Glavan I (Drochia county, Rep. of Moldova)	Cucuteni B_2							BALABINA 1998, p. 191.
65.	Hetmanivka 1 (reg. Savran, Ukraine)	Trypillia B_2-CI						x	KIOSAK *et al.* 2014a, fig. 3-4; 2014b.
66.	Iași-*Sfântul Nicolae Domnesc* (Iași county, Romania)	Cucuteni B_2					x		Unpublished.
67.	Stolniceni I (Edineț county, Rep. of Moldova)	Cucuteni B/ Trypillia CI					x		ȚERNA *et al.* 2016, p. 49, fig. 7/3-4.
68.	Talianki (Ukraine)	Cucuteni B_2						x	BALABINA 1998, p.191, fig. 102/1.
69.	Târgu Ocna-Podei (Bacău county, Romania)	Cucuteni B_2						x	Published in this paper: fig. 3/5.
70.	Trușești (Botoșani county, Romania)	Cucuteni B_2						x	PETRESCU-DÎMBOVIȚA *et al.* 1999, p. 36.
71.	Varvarovka VIII (Florești county, Rep. of Moldova)	Cucuteni B_2					x		MOVŠA 1965, p. 100-105, fig. 1/4; MARCHEVICI 1981, p. 25, fig. 24/13= fig. 26= 27/2.
72.	Bilcze Złote (Borschiv county, Ukraine)	Cucuteni B_2/ Trypillia CI-CII						x	ȚURCANU 2013, p. 73, pl. 167/9.
73.	Brânzeni XI (Edineț county, Rep. of Moldova)	Tripolie CII					x		ȚERNA, HEGHEA 2017, fig. 27/2.
74.	Grizorivka (Ukraine)	Cucuteni B_2/ Trypillia CI						x	OVCHINNIKOV 2014, p. 108-109, fig. 120/5.
75.	Kosziłowce (Ukraine)	Cucuteni B_2/ Trypillia CI-CII					x	x	HADACZEK 1912, t. XX/172; XXI/189; BALABINA 1998, fig. 103/3-4.
76.	Vîhvatinți/ Ofatinți (Rîbnița county, Rep. of Moldova)	Cucuteni B_2/ Trypillia CI-CII					x		MOVŠA 1965, p. 100-105, fig. 1/5.
77.	Pekari II (Kaniv county, Ukraine)	Cucuteni B_2/ Trypillia CI						x	OVCHINNIKOV 2014, p. 108-109, fig. 120/7.

78.	Regiunea Cherkasî (Ukraine)	Cucuteni B_2/ Trypillia CI-CII					x		VIDEIKO 2004, p. 158, 443.
79.	Regiunea Uman (Ukraine)	Cucuteni B_2/ Trypillia CI-CII						x	IAKUBENKO 1998, p. 47-52, fig. 11, 16, 20.
80.	Jvaneț (Camenița county, Ukraine)	Cucuteni B_2/ Trypillia CI-CII					x		MOVŠA 1965, fig. 1/3-4; 2; 3/1.
81.	Sușkivka (Babanka county, Ukraine)	Cucuteni B_2/ Trypillia CI-C		x			x		MOVŠA 1965, p. 100-105, fig. 3/2; IAKUBENKO 1998, p. 43-45, fig.
82.	Vladimirovka (Novoarkhangelsk county, Ukraine)	Cucuteni B_2/ Trypillia CI-CII						x	IAKUBENKO 1998, p. 43-45, fig. 1-5.
83.	Bodești-Frumușica (Neamț county, Romania)	Cucuteni – unknown phase	x	x					MATASĂ 1946, p. 60, 83, 161; fig. 32; pl. X/41-42; LVIII/432, 433a, 433b, 434; GARVĂN 2011, pl. II/1-6.

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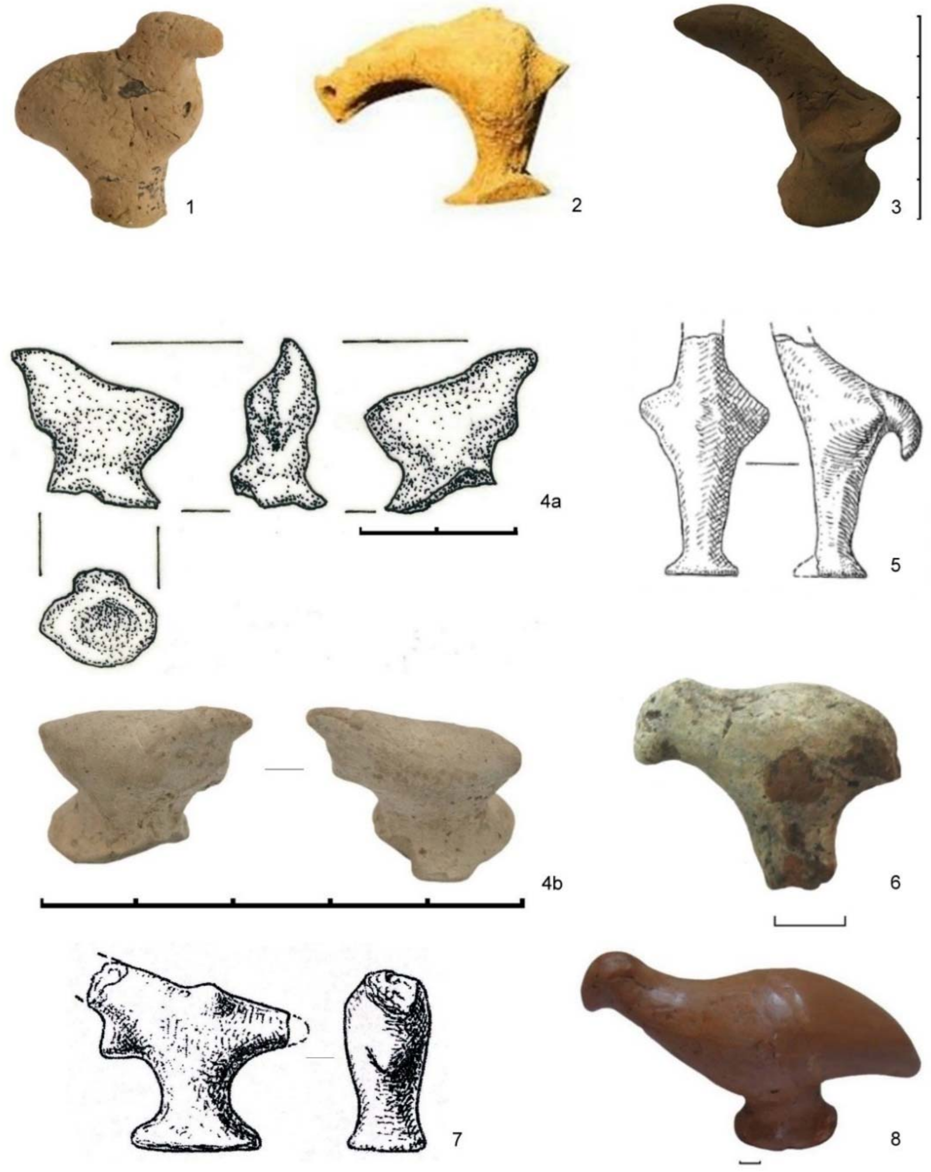

Fig. 1. 1-8, Aviform statuettes proper. 1-8, ceramic. Various scales. 1, Târgu Frumos; 2, Luka Vrublevețkaja; 3, Fetești; 4, Scânteia; 5, Târpești; 6, Mogylna III; 7, Putinești; 8, Bodești. 1-2, 5-7, Precucuteni III; 3, Cucuteni B; 4, Cucuteni A; 8, unknown phase. (1, after STRATULAT *et al.* 2008; 2, after BURDO 2004; 3, photo S. Ignătescu; 4, drawing R. Ionescu, photo M. Neagu; 5, after MARINESCU-BÎLCU 1981; 6, after PERESUNCHAK, BURDO 2005; 7, after BODEAN 2001; 8, after LAZAROVICI *et al.* 2009).

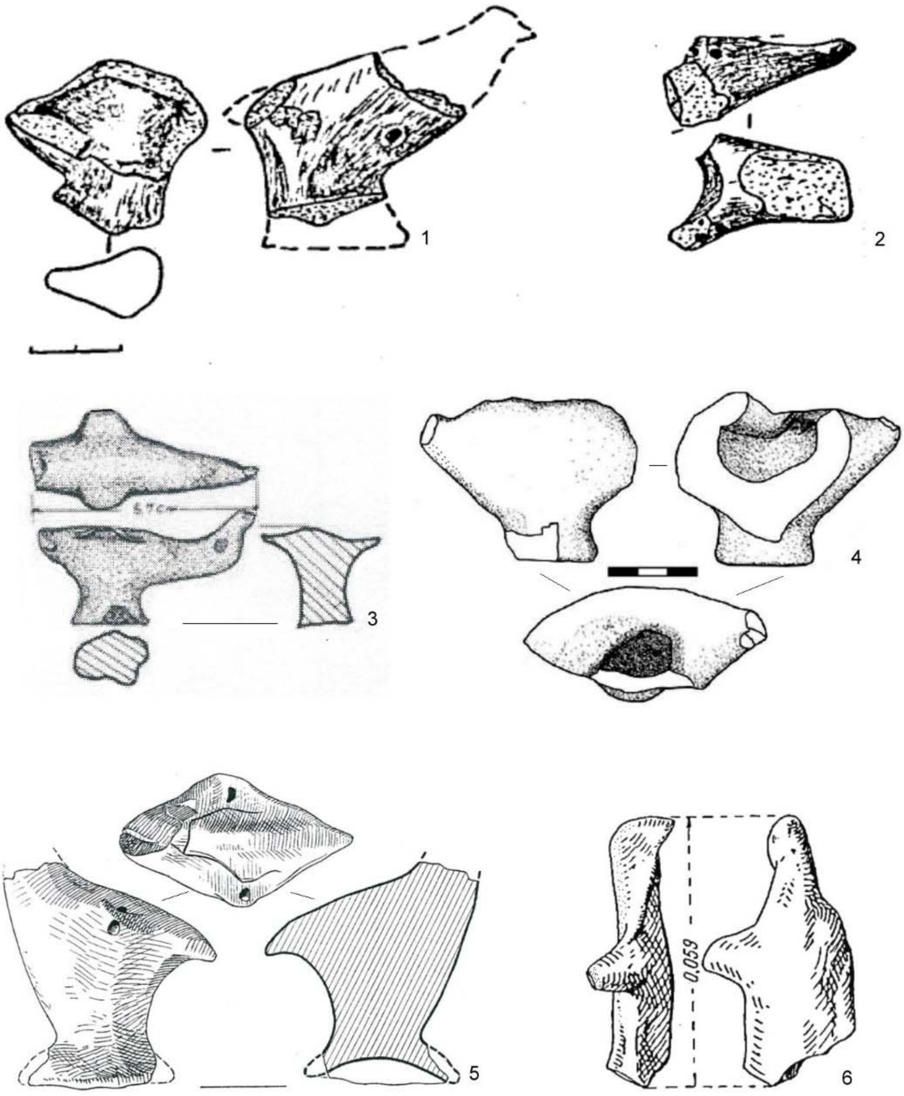

Fig. 2. 1-2, Ocarina-type aviform statuettes. 3, 5-6, aviform statuettes proper; 4, aviform statuette with container on its back. 1-5, ceramic; 6, sun-dried clay. Various scales. 1, Sușkivka; 2, Uman region; 3, Hoisești; 4, Poduri; 5, Drăgușeni; 6, Moldova. 1-2, Cucuteni B / Trypillia CI-CII; 3, 5, Cucuteni A; 4, 6, unknown phase. (1-2, after IAKUBENKO 1998; 3, after FURNICĂ 2014; 4, after GARVĂN 2011; 5, after MARINESCU-BÎLCU, BOLOMEY 2000; 6, after BERLESCU 1964).

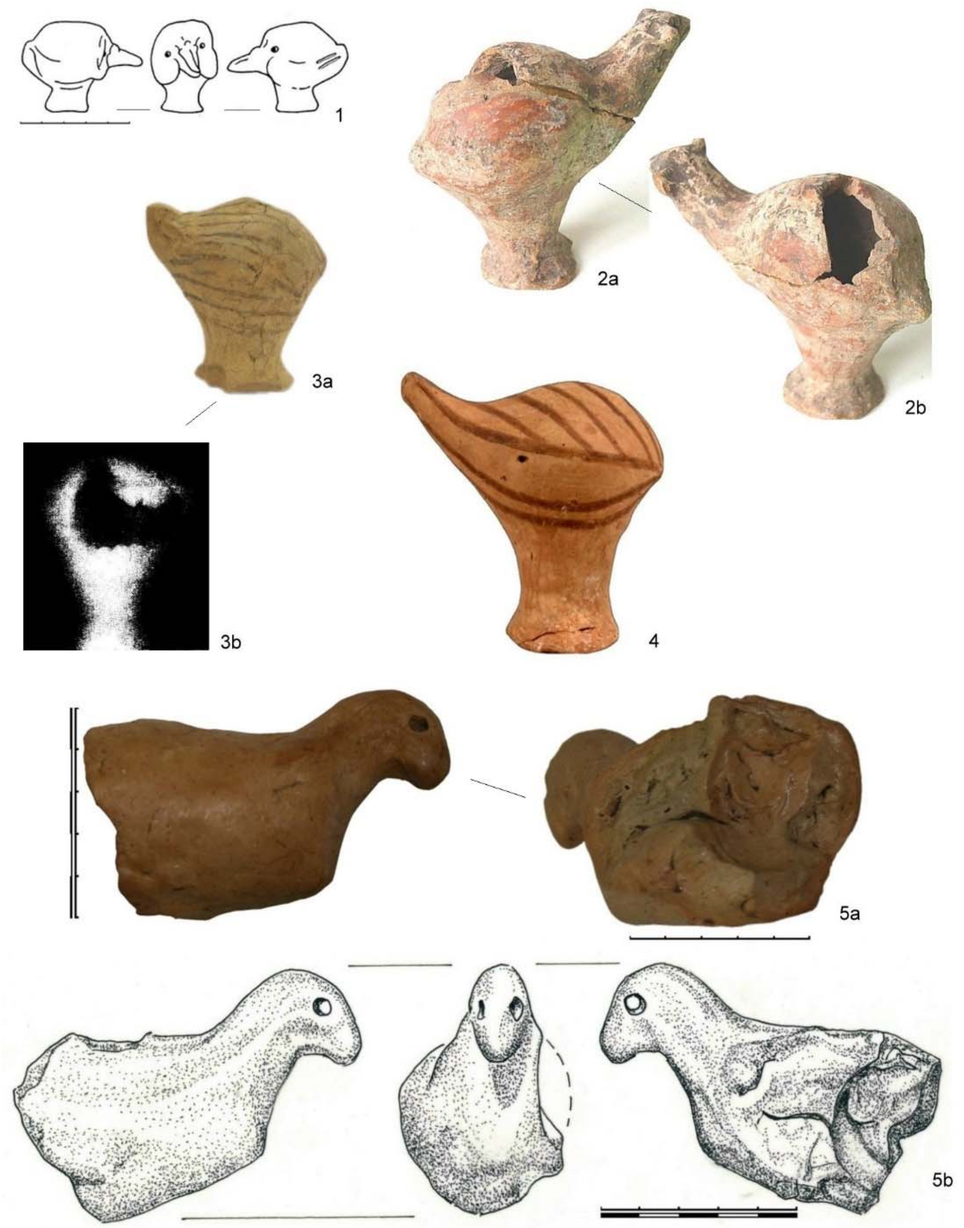

Fig. 3. 1-5, Rattle-type aviform statuettes. 1-5, ceramic. Various scales. 1, Grebeni; 2, Kosziłowce; 3, Hetmanivka; 4, Brânzeni VIII; 5, Podei-Tg. Ocna. 1-5, Cucuteni B / Trypillia CI-CII. (1, after BALABINA 1998; 2, after BURDO 2004; 3, after KIOSAK *et al.* 2014a, 2014b; 4, after ȚERNA, HEGHEA 2017; 5, photo S. Țurcanu, drawing R. Ionescu).

Fig. 4. 1-6, *Askos*-type aviform vessels. 1-6, ceramic. Various scales. 1-2, Ariușd; 3, Coşerniţa; 4, Isaiia; 5-6, Poduri. 1-2, Cucuteni A; 3, Precucuteni III; 4, Precucuteni II; 5, unknown phase; 6, Cucuteni A. (1-3, after STRATULAT *et. al.* 2008; 4, URSULESCU, TENCARIU 2006; 5-6, MONAH *et al.* 2003).

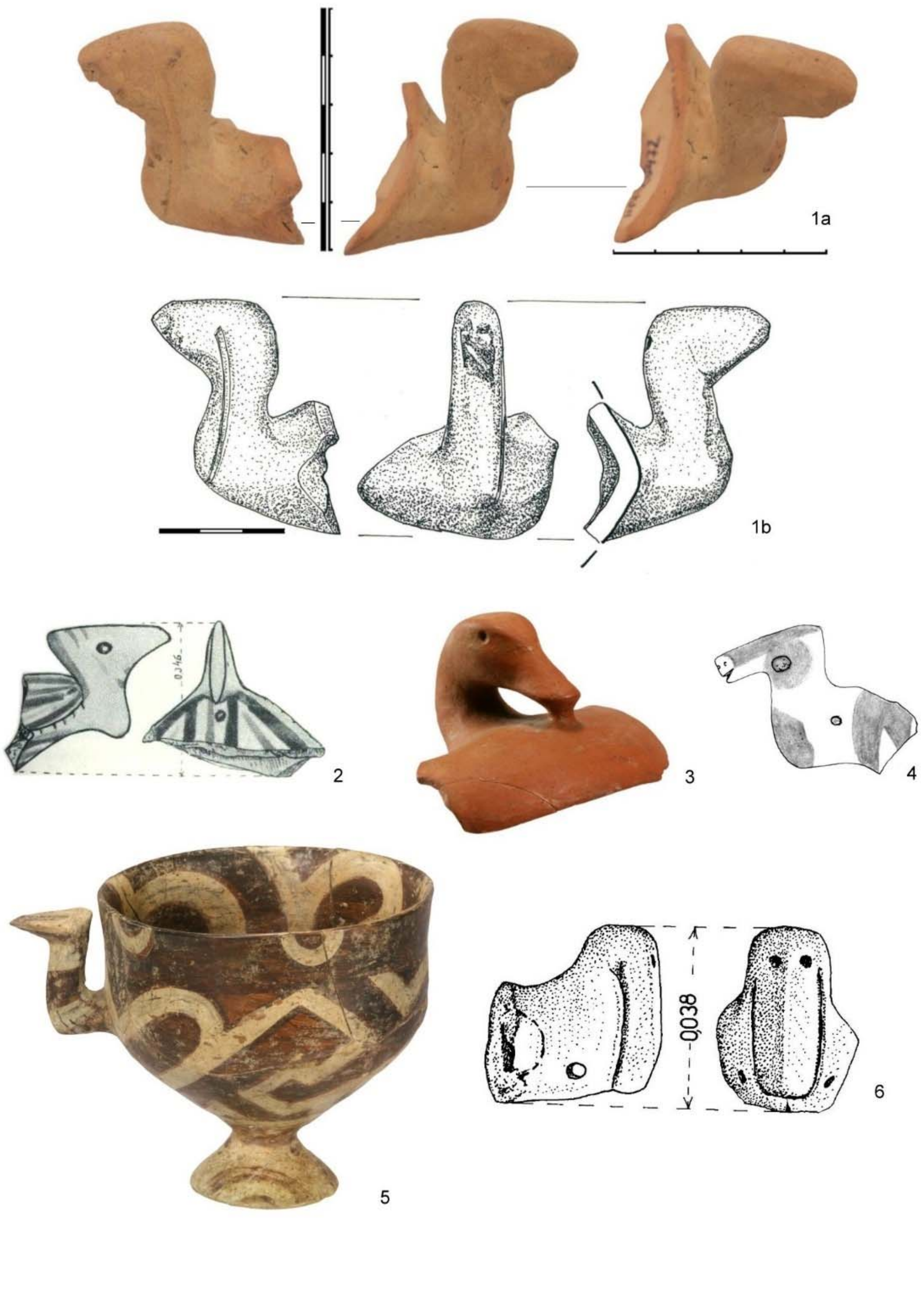

Fig. 5. 1-6, Containers with aviform features (protomes). 1-6, ceramic. Various scales.
1, Ruginoasa; 2, Drăgușeni; 3, Mărgineni; 4, 6, Trușești; 5, Poduri. 1-2, 4-6, Cucuteni A;
3, Cucuteni B. (1, photo M. Neagu, drawing R. Ionescu; 2, after CRÎȘMARU 1977;
3, 5, after STRATULAT *et al.* 2008; 4, 6, PETRESCU-DÎMBOVIȚA *et al.* 1999).

Fig. 6. Lid with aviform feature (protoma). Ceramic. Photo M. Neagu, drawing R. Ionescu.

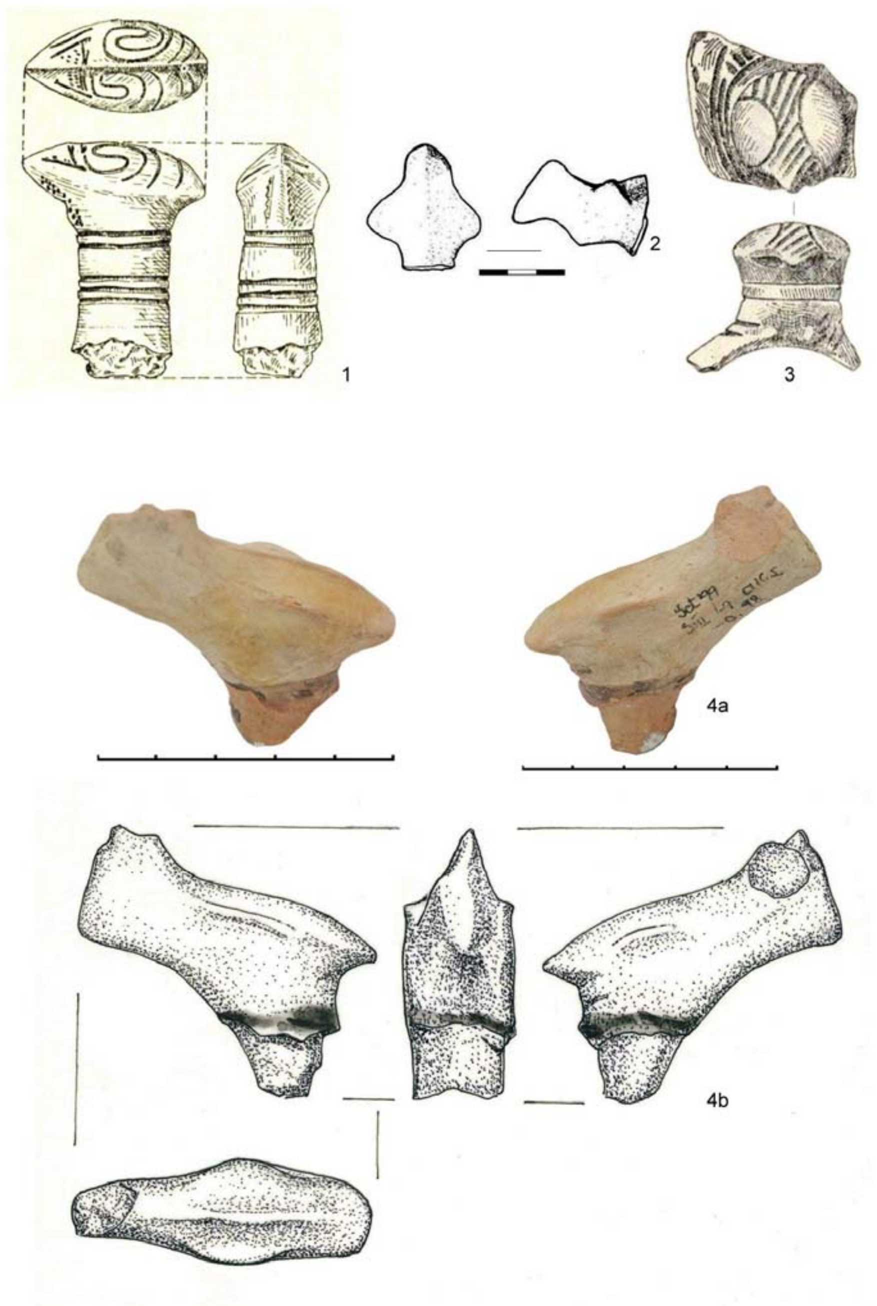

Fig. 7. 1-3, Lids with aviform features (protomes). 1-4, ceramic. Various scales.
1, Traian-*Dealul Viei*; 2, Ghelăiești; 3, Mândrișca; 4, Scânteia. 1, Precucuteni I; 2, Cucuteni B; 3, Precucuteni II; 4, Cucuteni A. (1-2, after MARINESCU-BÎLCU 1974; 3, after GARVĂN 2011; 4, photo M. Neagu, drawing R. Ionescu).

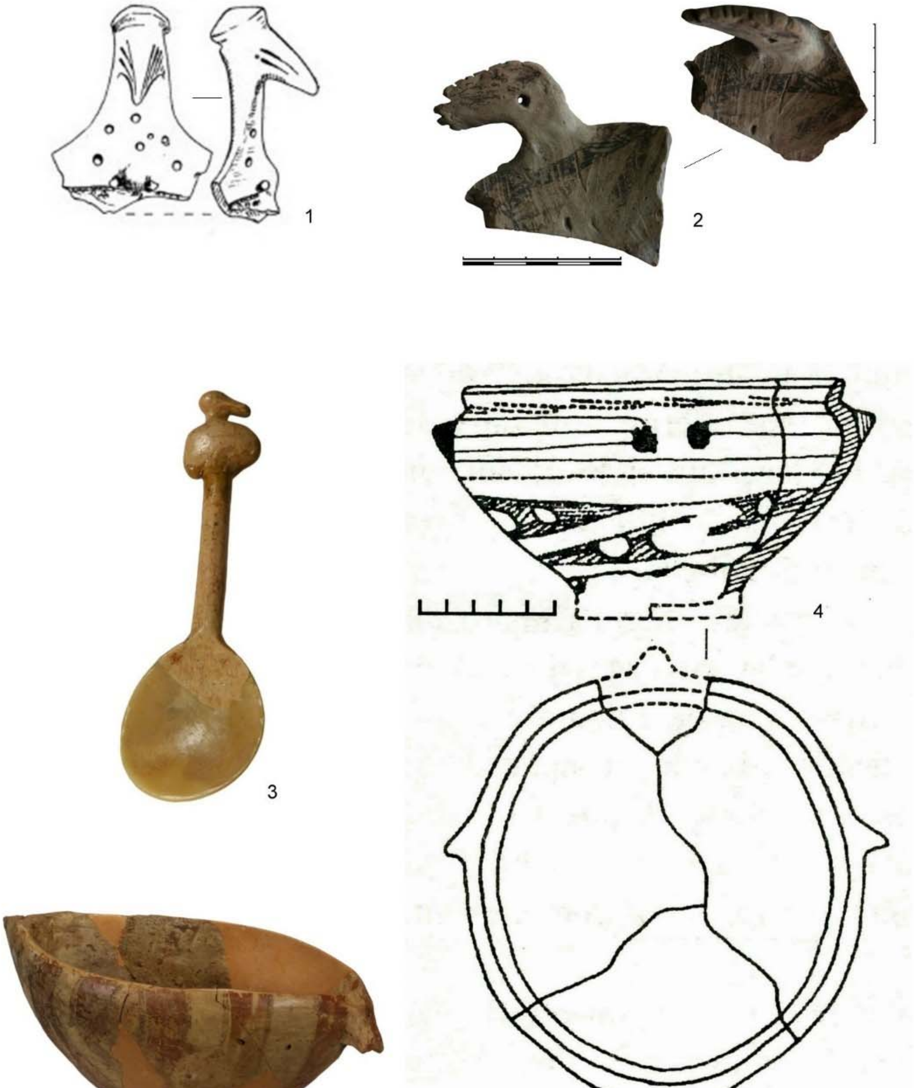

Fig. 8. 1, Aviform spoon handle; 2, aviform vessel handle; 3, aviform spatula handle; 4-5, vessels with aviform features. 1-2, 4-5, ceramic; 3, bone. Various scales. 1, Vlădeni; 2, Mitoc-*Pârâul lui Istrati*; 3, Târpeşti; 4, Rogojeni-*Gară*, 5, Mărgineni. 1, 3, 4, Precucuteni III; 2, 5, Cucuteni A (1, after MARINESCU-BÎLCU 1974; 2, photo A. Kovacs; 3, 5, after STRATULAT *et al.* 2008; 4, after MARCHEVICI 1996).

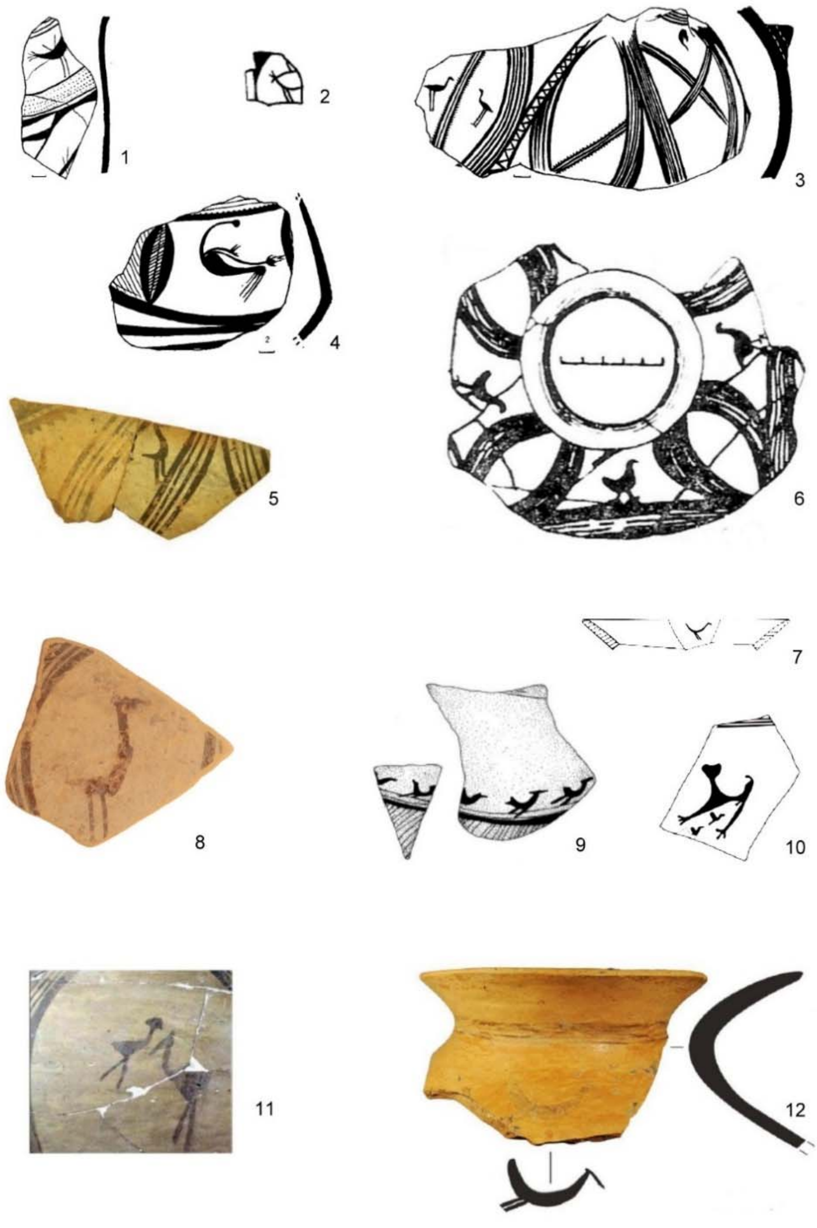

Fig. 9. 1-12 Painted aviform representations. 1-12, ceramic. Various scales. 1-12, Cucuteni B/ Tripolie CI-CII. 1, Caracușenii Vechi; 2, Kosziłowce; 3, 11, Jvaneț; 4, Sușkivka; 5, 8, Brânzeni XI (IX); 6, Varvarovka VIII; 7, Brânzeni VIII; 9, Ștefănești; 10, 12, Stolniceni I. (1-4, after MOVŠA 1965; 5, 7-8, after ȚERNA, HEGHEA 2017; 6, after MARCHEVICI 1981; 9, after NIȚU 1975; 10, 12, after ȚERNA *et al.* 2016; 11, after BURDO 2004).

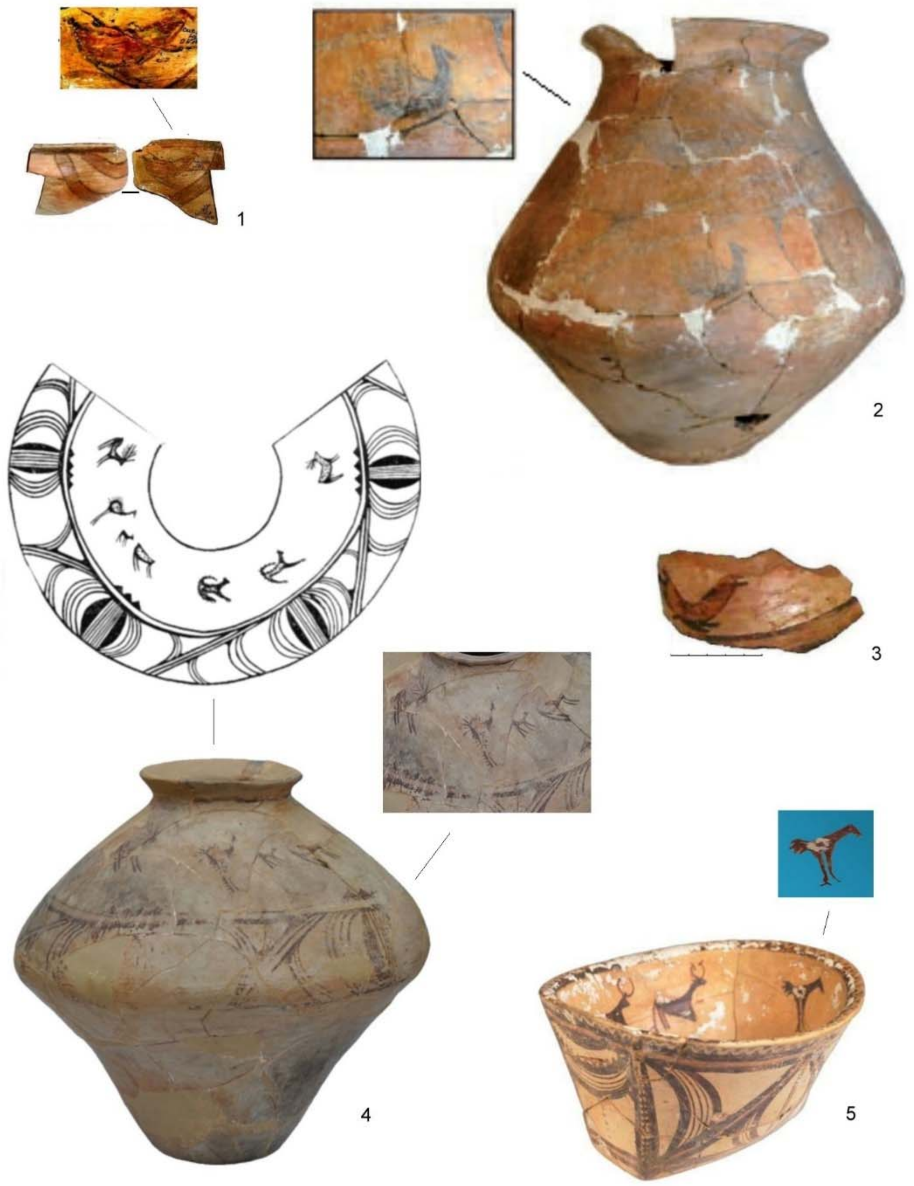

Fig. 10. 1-5, Painted aviform representations. 1-5, ceramic. Various scales.
1-5, Cucuteni B/ Trypillia CI-CII. 1, 3, Cucuteni-*Cetățuie*; 2, Brânzeni IV; 4, Varvarovka VIII; 5, Cherkas'ka region. 1, 3, after PETRESCU-DÎMBOVIȚA, VĂLEANU 2004; 2, after ȚERNA, HEGHEA 2017; 4, after MARCHEVICI 1981, STRATULAT *et al.* 2009; 5, after STRATULAT *et al.* 2008.

Fig. 11. 1-2, Painted aviform representations. 1-2, ceramic. Various scales. 1, dish, 2, amphora, items from the cult feature uncovered in Buznea. Various scales. Cucuteni B (1-2, after BOGHIAN, MIHAI 1987, photos M. Neagu).

1

2

Fig. 12. 1, The hoard of Brad. 2, the cult complex of Isaiia. Various scales.
1, Cucuteni A; 2, Precucuteni II. 1-2, after LAZAROVICI *et al.* 2009.

Fig, 13. Tlingit shaman tying up a witch, Sitka, Alaska (after https://www.historymuseum.ca/cmc/exhibitions/aborig/tsimsian/images/shawi01b.jpg).

Fig. 14. Tlingit Shaman's grave goods, circa 1890 (after http://naxnox.weebly.com/shaman-kits.html).

THRONES/ ALTARS OF THE CUCUTENI-TRYPILLIA CULTURE

Ion MAREŞ[1]

Abstract: A special place in the everyday life of the cucutenian population was occupied by the practice of cult, focused on beliefs about fertility and fecundity. The Great Goddess (Mother Goddess, *Terra Mater*) was represented in various ways through anthropomorphic statuettes. The thousands of anthropomorphic statuettes from the Cucutenian-Trypillian settlements are generally female representations, few are masculine and androginous. Specially arranged places (sanctuary-dwellings, sanctuaries) existed in the cucutenian villages, the cultic ceremonies being *directed* by the initiates: the great priests, the shamans. The anthropomorphic and zoomorphic cucutenian symbolism and iconography has a great dimension and variety, compared to the one existing in the space occupied by contemporary Eneolithic cultures. The diversity of the Cucutenian cultic statuettes, compared to the one existing in the contemporary Eneolithic civilizations, is evident, but it does not ignore the *canons* of the historical period.
Among the cultic objects from the Neo-Eneolithic are the so-called *thrones,* which are actually altars. A well known artifact from the area of the Cucuteni culture is the throne from Lipcani (Bessarabia), discovered by Ceslav Ambrojevici (AMBROJEVICI 1933: 39, 42-43, fig. 8), who donated it to the museum of Suceava. The item has been found in the Cucuteni B settlement above the cremated remains of a house. Since it is an important artifact, we published it some time ago (MAREŞ 1996: 63-68, fig. 1).
Keywords: *Throne/Altars, Cucuteni-Trypillia culture*

A special place in the everyday life of the cucutenian population was occupied by the practice of cult, focused on beliefs about fertility and fecundity. The Great Goddess (Mother Goddess, *Terra Mater*) was represented in various ways through anthropomorphic statuettes. The thousands of anthropomorphic statuettes from the Cucutenian-Trypillian settlements are generally female representations, few are masculine and androginous[2].

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[2] MONAH 1997; BURDO 2014.

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Specially arranged places (sanctuary-dwellings, sanctuaries) existed in the cucutenian villages, the cultic ceremonies being *directed* by priests and shamans. All members of the community participated in these religious activities, and the *calendar* of worship events was probably outlined, as is the case today, by the most important events in human life: birth, daily activities, death[3].

The cucutenian/trypillian anthropomorphic and zoomorphic symbolistic and iconography has a great size and variety, compared to that from the spaces occupied by contemporary Eneolithic cultures. However, in the territories *dominated* by the Cucuteni-Trypillia culture, there were almost identical religious forms, characteristic to agrarian communities, the main place being related to the cult of fertility and fecundity. The living space was usually delimited and outlined by fortification systems, and everyday life became sacred by carrying out various worship ceremonies.

In the category of Eneolithic worship props (altars, altar-tables, anthropomorphic and zoomorphic statuettes, etc.) are also included the so-called *thrones/ altars*, with the back-rest rendered figuratively by two anthropomorphic statuettes[4]. They form a typologically distinct category of items and they had a well-defined role in practicing the cult, being used during religious ceremonies. The items have similar typological components, being cultic items, namely altars/sacrifice tables. In order to sustain this idea, we compare typologically four artifacts of this type from the Cucuteni-Trypillia culture, found at great distances between them (hundreds of kilometers) and in different places: Lipcani (Bessarabia) and three unknown places in Ukraine (artifacts from the *Platar* collection, Kiev).

A known object from the area of the Cucuteni civilization is the throne/altar (fig. 1) from Lipcani (Bessarabia), discovered by Ceslav Ambrojevici, who donated it to the museum in Suceava. The artifact was found in a Cucuteni B culture settlement, above the burned remains of a home[5].

Three other thrones/ altars (fig. 2; 3/1-2) are random discoveries from Ukraine, these being in the *Platar* Collection in Kiev[6].

The four artifacts are approximately identical in terms of typology, with common elements: two feminine anthropomorphic statuettes, with or without signs of pregnancy, consecration horns, dished containers, four legs each. Being probably used for libations, the dished container of the throne/altar was filled with certain liquids. The statuettes are connected through bands with consecration horns, symbols of masculinity. The legs of the altars are either anthropomorphic (fig. 1; 3/2) or simple (fig. 2; 3/1). On the altar of Lipcani

[3] MAREŞ 2009.

[4] MAREŞ 1996.

[5] AMBROJEVICI 1933: 39, 42-43, fig. 8; MAREŞ 2009.

[6] BURDO 2008: 172, 179, 197; VIDEIKO, BURDO 2004: 379, 393.

are preserved ornaments painted with black-chocolate (Fig. 1), as well as on a throne/altar from Ukraine.

Comparative analysis

(the numbers correspond to the markings of the artifacts in the corpus)

Thrones/ Altars	1	2	3	4
Dished container	•		•	
Two anthropomorphic statuettes	•		•	
Perforated eyes		•		•
No eyes	•			
Stumps	•		•	
Perforated stumps		•		
With breasts		•		
Without breasts	•		•	
Marked sex		•		•
Unmarked sex	•			
Connecting bands with consecration horns	•			•
Container with consecration horns		•		
Nose *en bec d'oiseau*	•		•	
Signs of pregnancy on both statuettes	•		•	
No signs of pregnancy			•	
One statuette with signs of pregnancy				•
Anthropomorphic legs	•			
Simple legs		•		•
Painted with black	•			•
Painted with red		•		
No painting				•

Conclusions

In the religious practices of the Cucuteni-Trypillia culture, thrones/ altars were elaborated according to distinct canons, being used in religious ceremonies related to fertility and fecundity (birth, life, and death).

The religious superstructure functioned identically in the space occupied by the Cucuteni-Trypillia civilization communities.

The thrones/ altars of worship were found hundreds of kilometers apart.

The typological category dates from the Cucuteni B-Trypillia C phase and it disappeared with the mentioned civilization.

CORPUS

1. Throne/ altar (fig. 1)

Lipcani, Bessarabia

Phase Cucuteni B

H: 123 mm; W: 76 mm

It is made of fine paste, brown color; it has a rectangular, concave seat with straight edges; the backrest is composed of two feminine anthropomorphic statuettes, approximately identical, rendered stylized; the eyes and the sex are not marked; the container of the seat is concave; the statuettes have a prominent belly, sign of pregnancy; the nose is shaped *en bec d'oiseau*; the back of the head is flat, the arms are rendered by two stumps; the statuettes are connected by a band with two conical protrusions; the chair stays on four anthropomorphic legs, the left front leg is broken from ancient times and completed with plaster; the legs look like human bare feet; it preserves the decor painted with horizontal and oblique, arched black lines. Between the two statuettes there is no difference in modeling, but the one on the right is 2 mm taller than the one on the left.

The Bukovina Museum, B/99.

(AMBROJEVICI 1933: 39, 42-43, fig. 8; MAREŞ 1996: 63-68, fig. 1; MAREŞ 2009)

2. Throne/ Altar (fig. 2)

Ukraine

Phase Trypillia C

The artifact has a backrest formed of two female statuettes with marked sex; they have no breasts, the arms are in the form of two stumps perforated at the base; the statuettes have a prominent belly, sign of pregnancy, the navel is indicated by an alveolus; the heads are disc-shaped, the nose *en bec d'oiseau*, the eyes are marked by two perforations; the seat is rectangular, alveolated, with raised edges. The front end of the seat has two conical protrusions drawn from the paste, being a representation of the consecration horns.

Platar Collection, Kiev, Ukraine

3. Throne/ Altar (fig. 3/1)

Ukraine

Phase Trypillia C

The backrest is in the form of two female statuettes with disc-shaped heads, the noses *en bec d'oiseau*, the breasts are rendered through applied pills; the container of the altar

is quadrangle; the chair has straight legs; the statuettes are connected by a band with consecration horns. There are traces of black painting.

Platar Collection, Kiev, Ukraine

4. Throne/ Altar (fig. 3/2)

Ukraine

Phase Trypillia C

The backrest is rendered by two feminine anthropomorphic statuettes, fragmentary; the breasts are marked by applied pills; the statuette on the left has a prominent belly, sign of pregnancy; the connecting band between the statuettes preserves the traces of two consecration horns; the container is dished, the feet are anthropomorphic.

Platar Collection, Kiev, Ukraine

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Fig. 1. The throne/ altar from Lipcani (Bessarabia)

Fig. 2. Throne/ altar from the Platar collection (Kiev, Ukraine)
(apud BURDO 2008: 197)

a

b

Fig. 3. a-b - Thrones/ altars from the Platar collection (Kiev, Ukraine).

MILL- AND GRINDING STONES FROM SCÂNTEIA – *DEALUL BODEȘTI*

Carsten MISCHKA[1] and Doris MISCHKA[2]
With assistance of Darja ABRAMOV, Cornelia LECHNER,
Felix WIENERL and Rajith YOGANANTHAM

Abstract: 2016 and 2017 the authors excavated together with Magda Lazarovici a house within the settlement of Scânteia (Cucuteni A3), Romania. This article presents some aspects of rock artefacts, 19 mills and grinding stones in particular, recorded on this excavation. Included are the first observations on the raw materials, the preparation, measurements and types of the querns as well as the spatial distribution of rock artefacts in the excavation from 2016/17. It turns out that mills are suitable for the definition of activity zones as well as for studying the economic prosperity of the inhabitants within the Cucuteni societies.
Keywords: *Cucuteni culture, Copper Age, settlement, Scânteia, mill- and grinding stones, quantitative analysis*

Querns (in german: Mahlsteine) are a major artefact category for the reconstruction of prehistoric economic systems[3]. The tool "Quern" or "Mill" is made up by a saddle quern/grindingslab (german: "Unterlieger"; French: "Meule") – the static underlying, generally bigger part – and the mostly smaller, moving runner/ handstone/ grinder (german: "Läufer"; French: "molette"/"broyueur"). Due to the main purposeof these tools for milling of grains to flour, they were used intensively, probably daily. This led to a strong abrasive wear, so the querns had to be re-sharpened (or better re-roughed) frequently[4]. This reworking was done by picking the working face of the quern with hammer stones, which also can be found frequently in prehistoric stone artefact assemblages. After a certain time of usage, saddle querns and runners break apart and are – depending on the demand

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[3] HAMON, GRAEFE 2008; ZIMMERMANN 1988; GEHLEN 2009.

[4] RAMMINGER 2009; RAMMINGER 2008; RAMMINGER 2007; ZIMMERMANN 1988.

for raw material – used for further functions, for example polishing or other kinds of working stone-, bone- or plantmaterials.

During the excavation campaign in 2017, 1662 manuports and artefacts from "rock" (here in the meaning of non-silex stones) were recorded, summing up to a total weight of 656.7 kg. Mostly, they were recognized per 2x2m-squares, but special exemplars were measured also as single finds. All of them were counted and weighed to get a first impression of the mass of material, brought to the site, and also of the means of deposition. About 220 rock artefacts were cleaned and documented by photo, but nevertheless, due to the sheer amount and mass of the stones it was not possible to store them all in the museum depot, so the 21 pieces treated in this text are the only further examined. They were put in a feature analysis following the standardised "SDS"-system, an evolution of the SAP-system, used in Germany mainly for Funnel-Beaker and Linearpottery artefacts[5].

For a clear identification, the stones were given individual numbers (ID). ID 14 and 21 are small (106-122g), completely rolled stones without clear artificial working traces. If they were used for picking duty remains unclear, due to the heavy grade of sinter, which is a characteristic of all finds from Scânteia. The other 19 finds are clearly mill- or grindingstones and will be examined more closely in the following text.

CIRCUMSTANCES OF THE FINDS

As part of a romanian-german collaboration[6], on the Cucuteni-A3-settlement of Scânteia a dwelling structure (House 14) was excavated in 2016 and 2017[7]. As the site is located on a loess plateau free of any stones, all excavated exemplars must at least be taken as manuports. By far the most of the rocks show traces of modification and/or usage and therefore have to be taken as artefacts.

RAW MATERIAL

All querns were made from calcareous sandstone, so they could only be cleaned with normal water. A further removal of the sinter by citric acid, like proven with ceramic would have led more or less to the artefacts' complete destruction. As a consequence, it is nearly impossible to detect the scar-like working traces, which are necessary for the determination of the direction of the working movement.

[5] DRAFEHN *et al.* 2008.

[6] Thanks to our partner Cornelia-Magda Lazarovici for many years of warm and prospering cooperation.

[7] DRUMMER *et al.* submitted; LAZAROVICI *et al.* submitted.

The raw material is very probably originated locally. In only 4.4 km straight distance from the site to WNW, an old quarry is located between the villages Căueşti and Şcheia[8]. In this quarry, different banked layers of calcareous sandstone are cut, including layers of fine stone also as layers with a coarser matrix, including lots of sweetwater molluscs (Fig. 1-3). All varieties of the rocks found at Scânteia can be matched to the layers in the quarry, making it plausible, that all of them can originate from one single location quite near to the site. Nevertheless, a systematic survey for more possible raw material sources, including the analysis of existing geological maps is still do be done.

Thermal exposure

None of the 21 specimens, and according to the photographic documentation also none of the other rock artefacts shows traces of thermal exposure. This is at least notably, as house 14 burned down on a high temperature, resulting in a massive layer of burned daub. Also, a use as limiting a fireplace is also not possible at the first sight. An explanation for this could be a special behaviour of the calcareous sandstone, resulting not in cracks, thermal breakups or colour changes when exposed to heat. Another point which has to be discussed is the possibility of covering the artefacts before burning down the house, or bringing them to or at least near to the already burned structure from a different place in a secondary deposition.

Initial shape and shaping of the rocks

Most of the examined mill- and grindingstones are shaped in a very accurate fashion. On nearly 70% of the artefacts the sides show traces of flaking, with partially additional picking and grinding (Fig. 4). The querns' bottoms are also in 62% worked, 25% via flaking and/or picking and grinding. An additional 25% show a second working surface on the pieces' bottom ends.

Nearly all (95%) of the (first) working surfacesshow marks from picking or picking and polishing (Fig. 5). As only reasonable picked surfaces allow the processing of grain, this clearly indicates the use of this stones as millstone. A special specimen is ID 23, where the first and main working surface only show heavy polishing, with pickmarks only on the second surface. This indicates a broken millstone, secondary utilized as grinding stone.

[8] The quarry was the first time explored for archaeology during the 2017 excavation campaign by Prof. Dr. Rupert Bäumler and Carolina Mayer B.A., Institute for Geography, Friedrich-Alexander-University Erlangen-Nürnberg.

PRESERVATION

None of the examined rock artefacts is complete. Most of them (n=11; 57,9%) are more or less broken at the middle axis, leading to an end fragment with two or three adjoining outer edges (Fig. 6). Only three pieces (15,8%) are medial fragments with two outer opposing edges; four more are fragments with only one of the initial outer edges.

ORIENTATION AND SHAPES

Because of the sinter mentioned above, it was only for one millstone (ID 10) possible to distinguish traces which show the direction of working. For all other pieces it is impossible to divide between runners (traces rectangular to the middle/concave shaped axis) and saddlequerns (traces parallel). On the first working surfaces, different combinations of cross- and longitudinal section shapes can be found (Fig. 7). A second working surface is visible on nine specimens, but only five have a regular shape, the others appear irregular or undecidable(Fig. 8).

As far as decidable, the most specimens resemble typological Zimmermann's "Type 2"[9], resp. "Type B" after Graiewski[10], meaning the runner is approximately as long, as the saddle quern is broad (Fig. 9). Only ID 10 can be addressed as more or less typical runner with thickened ends of a Zimmermann "Type 1" (Fig. 10-11a). The working traces mentioned above, as well as the typical bulge at one end of the piece allow this classification. ID 9 boasts two in all directions concave working surfaces, so the shape points to a Zimmermann "Type 3". Nevertheless, both working surfaces are highly polished and without any traces of picking, so probably this artefact is no millstone, but a grinding stone for special purposes of craftsmanship[11].

The analyzed Querns represent a total weight of 38,3 kg; with an average of approximately 2 kg, with a standard deviation of more than 1 kg (Fig. 12). This high deviation was expectable due to the morphological and taphonomical inhomogeneity of this group of artefacts, which also makes it difficult to analyse the other metric attributes. But trying this despite of the given uncertainties, two groups form in the field of length-broadness- and broadness-thickness-ratio (Fig. 13).

Given the assumption, that we have mainly type 2 querns, which normally break more or less in the middle, the runners must be at least as long as the saddle querns broad. Problematic is the fact, that the missing working traces don't allow a clear orientation. Compared with the data from Hürlimann[12] of a swiss wetland site from the later Neolithic,

[9] ZIMMERMANN 1988, 725.

[10] GRAIEWSKI 2012, 780, FIG. 1.

[11] This kind of grinding stone called "Schleifwanne" ("grinding tub") in german literature.

[12] HÜRLIMANN 1965.

who also did not specify runners and saddle querns, it stands out that the specimens from Scânteia are much narrower and also the pieces over 10 cm thickness are missing. Until now, we have to judge this facts as artefacts from the too small data base and due to the circumstances inadequate sampling.

Spatial distribution

Since the excavation campaign 2017 the entire stone material was at least counted and weighted. To maximize comparability, the distribution is plotted in weight per square meter for the area excavated 2017 (Fig. 14). As an interesting fact, the assumed rooms correspond with the find pattern of the rock artefacts. If the distribution is taken as an indicator for the house's use pattern, and not as a sign for secondary deposition (which would be a problem because of the massive layer of burned daub, overlying most of the stones), querns were not important for the activities in "Room A". In contrast to this, in the north of "room B" and also north of it, in a part of the 2016 excavated area was a concentration of rock artefacts, including the biggest querns. Together with the hearth in this part of the house this could possibly be interpreted as an functional area devoted to the processing of grain and craftsmanship.

The highest density of rock artefacts is reached in the up to 40 cm thick "sherd (an also stone-) layer" east of house 14. The interpretation of this area is still under progress. It could be a garbage disposal of house 14, which would explain the disposal of broken querns. An alternative interpretation is the creation of the sherd layer as a "pavement" or better: landfill between the settlements houses, an interpretation which would leave the artefacts from the sherd layer as not implicit connected to house 14 itself. Even an interpretation as an indicator for an out-houseworking space is possible until now. A fine-chronological analysis of the artefacts from the house and the sherd layer is still pending and hopefully will bring a new light in the interpretation also of the querns, found here in front of house 14.

Conclusion

Mill- and grinding stones can deliver important information on a Cucuteni culture settlement's economy, even if not intensively treated until now. For example, the big amount of querns per dwelling compared with sites from other archaeological cultures is striking. Perhaps together with the amount of spend runners per saddle quern it can be analysed in the light of the live span of Cucuteni houses, the number of people inhabiting them, the amount of grain these people eat and the amount of hectares, they have to work for it. The paper presented here only gives a small insight on the perspective of the works, planned to be carried out in the future.

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Fig. 1. Arial view of the quarry between Căueşti and Şcheia.

Fig. 2. Face of the calcareous sandstone quarry between Căueşti and Şcheia.
Good visible traces of deep ploughing under the top soil.

Fig. 3. Quarry between Căueşti and Şcheia.
Good visible: different banks of calcareous sandstone.

Shaping of bottom side / Shaping of side	no data	not artificially shaped	flaked	picked	flaked, picked & grinded/polished	second working surface	Sum	%
flaked		2				1	3	*15.8*
picked		1					1	*5.3*
grinded/polished			1				1	*5.3*
flaked & picked		1	2				3	*15.8*
flaked & grinded/polished						1	1	*5.3*
picked & grinded/polished		2				2	4	*21.1*
flaked, picked & grinded/polished	1	2		1	1	1	6	*31.6*
Sum	1	8	3	1	1	5	19	*100.0*
%	*5.3*	*42.1*	*15.8*	*5.3*	*5.3*	*26.3*	*100.0*	

Fig. 4. Scânteia. Shaping of the querns' sides and bottom sides.

First working surface / Second working surface	only grinding/ polishing	only picking	picked & grinded/polished	Sum	%
No working surface		1		1	*5.3*
only grinding/polishing		1	3	4	*21.1*
picked & grinded/polished	1		2	3	*15.8*
no information			1	1	*5.3*
no second working surface		5	5	10	*52.6*
Sum	1	7	11	19	*100.0*
%	*5.3*	*36.8*	*57.9*	*100.0*	

Fig. 5. Scânteia. Shaping of the querns' working surfaces (first and second).

Preservation	Count (n)	%
fragment with one edge	4	*21.1*
medial fragment with two opposing edges	3	*15.8*
end fragment with two or three adjoining edges	11	*57.9*
no information	1	*5.3*
Sum	19	*100.0*

Fig. 6. Scânteia. Preservation of the querns.

Shape of first working surface						
longitudinal axis / transverse axis	convex	flat	concave	irregular	Sum	%
convex	1	2	2	1	6	
flat	3	2	2		7	*36.8*
concave	2		4		6	*31.6*
Sum	6	4	8	1	19	*100.0*
%	*31.6*	*21.1*	*42.1*	*5.3*	*100.0*	

Fig. 7. Scânteia. Longitudinal and cross profile of the first working surfaces.

Shape of second working surface								
longitudinal axis / transverse axis	convex	concave	flat	irregular	no data	no second working surface	Sum	%
convex	1.0		1				2	*10.5*
concave			2	1			3	*15.8*
irregular		1	1	1			3	*15.8*
no information					1		1	*5.3*
no second working surface						10	10	*52.6*
Sum	1.0	1	4	2	1	10	19	*100.0*
%	*5.3*	*5.3*	*21.1*	*10.5*	*5.3*	*52.6*	*100.0*	

Fig. 8. Scânteia. Longitudinal and cross profile of the second working surfaces.

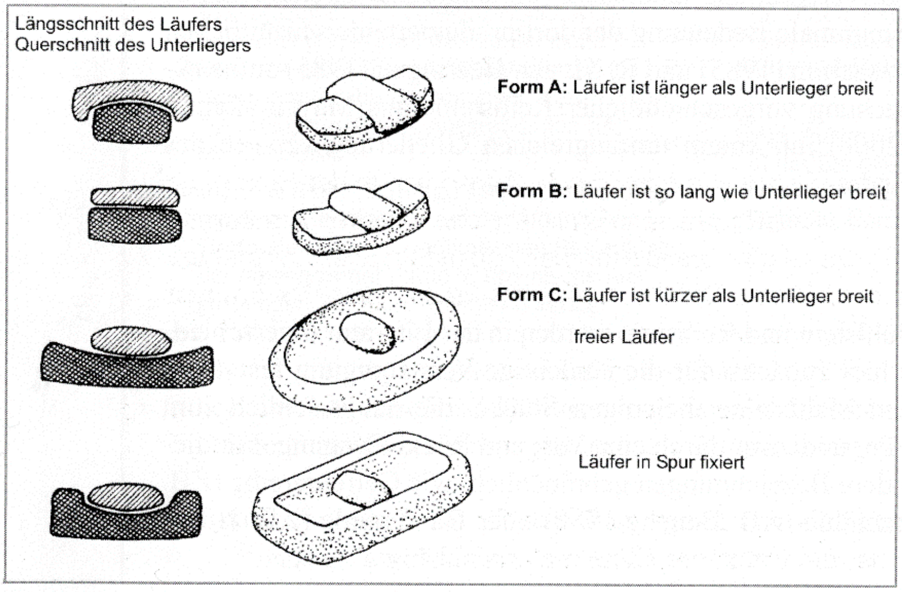


Fig. 9. Types of saddle querns and runners (after KEGLER-GRAIEWSKI 2012, 780, fig. 1).

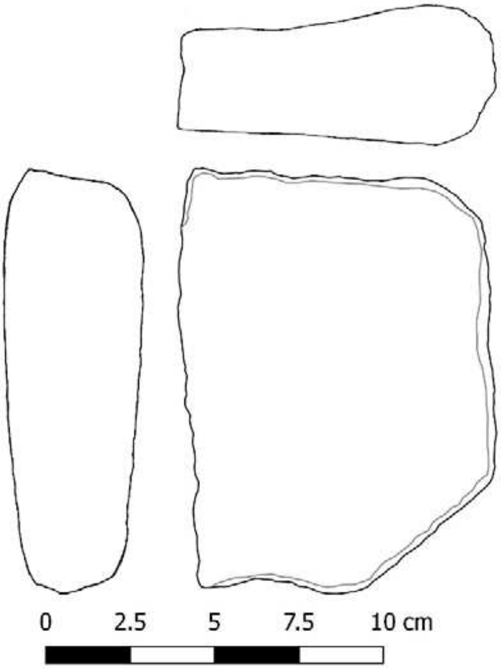
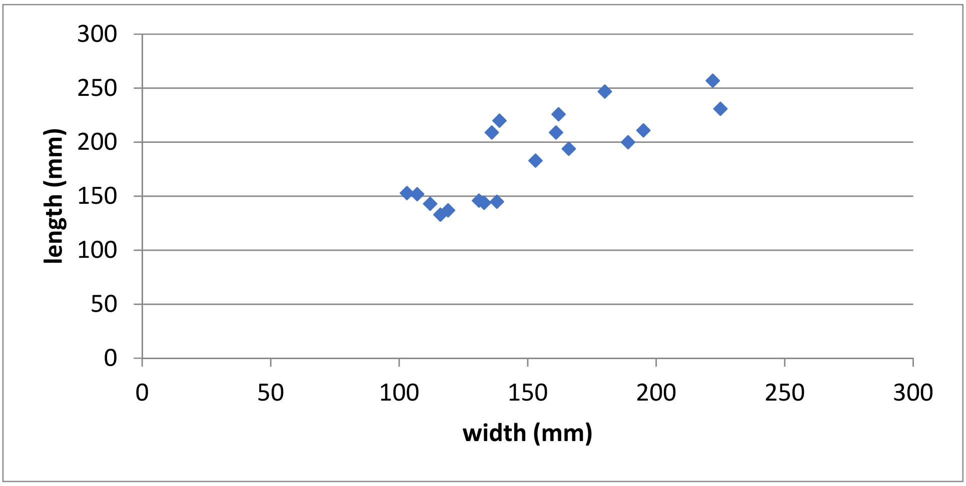


Fig. 10. Scânteia. ID 10, runner with bulged end (drawing C. Lechner/F. Wienerl).
Sections in rolled perspective.

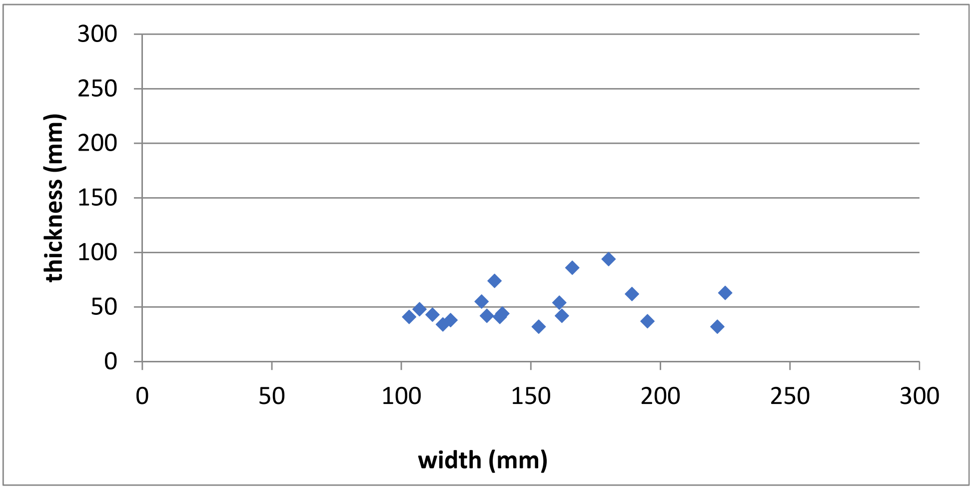
Fig. 11. Scânteia. a) ID 10, runner with bulged end; b) ID 11 quern;
c) ID 12 quern. Sections in rolled perspective.

	weight (g)	length	width	thickness
Average	2016.5	186.3	151.9	50.6
Standard deviation	1101.1	40.7	36.9	17.9
Quartile 1	1130	145.5	125	39.5
Median	1650	194	139	43
Quartile 3	2505	215.5	173	58.5
Minimum	874	133	103	32
Maximum	4620	257	225	94

Fig. 12. Scânteia. Weights in gramm, other measurements in centimeters.



a



b

Fig. 13. Scânteia. Length-width-ratio (a) and thickness-width-ratio (b) of the querns.

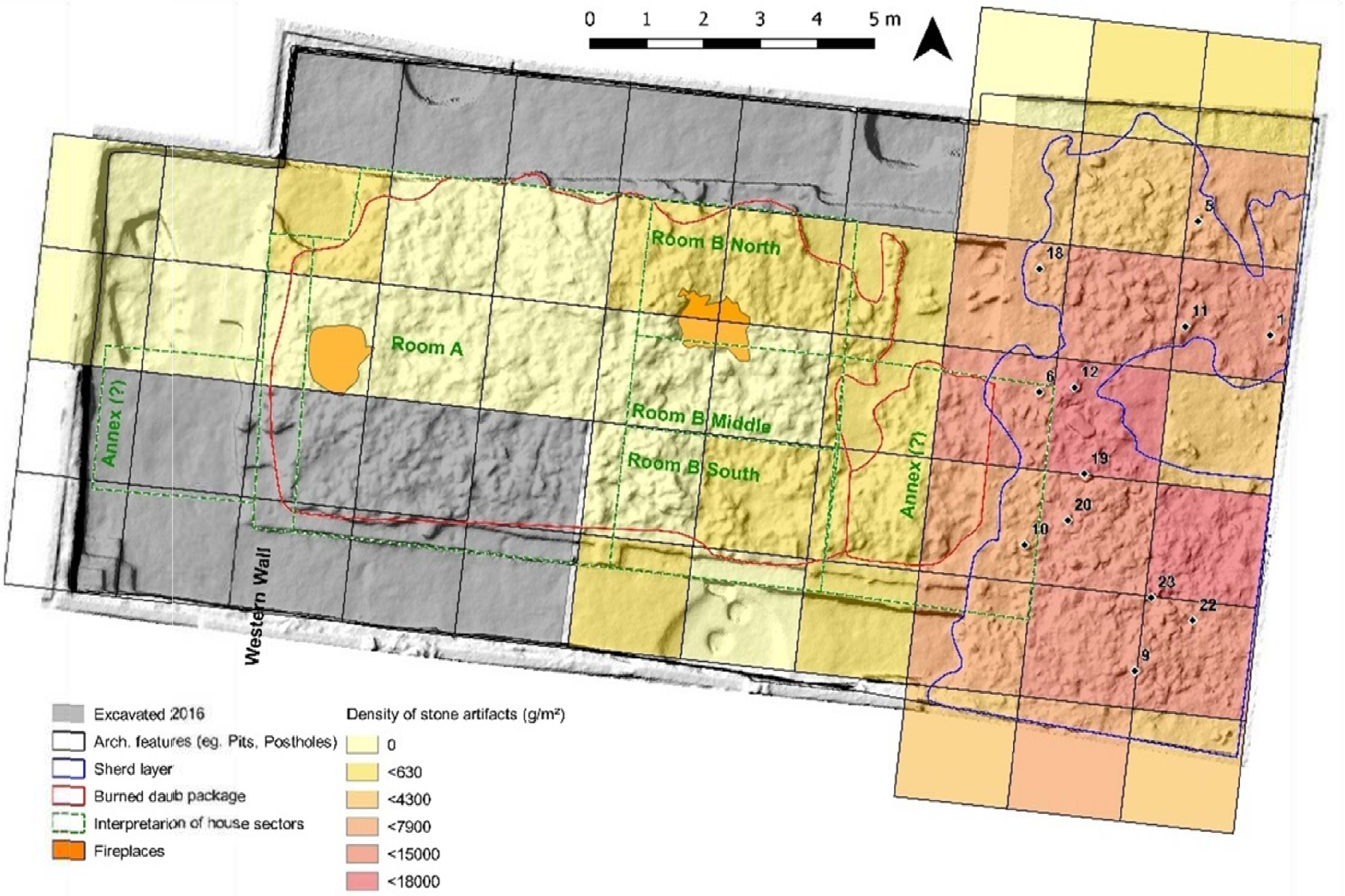


Fig. 14. Scânteia. Distribution of rock artefacts in the excavation trench of house 14.

RECENT INVESTIGATIONS IN THE CHALCOLITHIC SETTLEMENT OF RĂZBOIENI – *DEALUL BOGHIU*

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Abstract: This paper presents the newest research carried out in the Chalcolithic settlement from Războieni – Dealul Boghiu/Dealul Mare. The site was known from the XXth century through the investigations of Orest Tafrali (1935) and Natalia Berlescu (1955). The geophysical surveys from the recent years shed light on the planimetry of the settlement. Three test trenches were excavated in 2017 in order to verify the stratigraphy and the nature of some magnetic anomalies that suggested the existence of prehistoric kilns. Another objective of the invasive investigations was to sample bones for radiocarbon dating of one dwelling, coming from the last phase of habitation of the settlement. As resulted from the invasive researches, the state of preservation of the site is not very good, being affected, in some places, by the Second World War trenches. The analysis of the Chalcolithic ceramics discovered in 2017 showed that the site was inhabited in the A_{3b} sub-phase of the Cucuteni culture. 28 pottery samples were selected for the extraction of thick sections. The preliminary investigation of the pottery matrix has led to the identification of three technological choices in the manufacture of the ceramic wares.
Keywords: *Chalcolithic, geophysical surveys, Second World War trenches, conservation, stratigraphy, ceramic matrix, macroscopic porosity, technological choices*

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Materiality and Identity in Pre- and Protohistoric Europe
Homage to Cornelia-Magda Lazarovici

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INTRODUCTION

Based on the archaeological record, the Chalcolithic period from the east of the Carpathian Mountains – west of Prut River (nowadays north-eastern Romania) can be considered as a time when the human communities thrived in sedentary settlements, with a complex socio-economic organisation. The existence of intensive and extensive networks between the settlements assured the circulation of commodities over large geographic areas. In this context, the Bahlui River basin was a territory with a high density of settlements[5], constituting, through its geographic and pedological characteristics, a location suitable to satisfy the economic needs of Prehistoric people. One of the left tributaries of the Bahluieț River[6], the Valea Oii/Recea brook's basin (an area of 97 km^2 set in the Moldavian Plain[7]) is home to at least 12 settlements belonging to the Middle Copper Age – Cucuteni A_3 phase of the Cucuteni-Trypillia culture[8]. At the moment we do not have a clear understanding of the relationships that had developed between these settlements in terms of socio-economic and political ranking. This is mainly due to the fact that knowledge on important aspects when considering the economy and society of the Chalcolithic is scarce for Valea Oii Basin. When trying to understand the relationships that developed between the Chalcolithic communities living in the Valea Oii Basin, several information are necessary in the first stage of the research: the identification of all the settlements and their distribution within the given geographic area, their precise chronological framing in order to establish their contemporaneity through a multiple set of absolute chronology data, their extent and planimetry, their geographical positioning, and last but not least, their economic profile (the analysis of the artefacts and bio-facts from the settlements).

Even so, our understanding can be truncated by several objective factors such as the degree of conservation of the sites (their disappearance or their disturbance by later populations or by natural agents), but also by subjective elements such as as the way in which the archaeological work (both in field and laboratory) is carried out and also by the deductive and inferential systems of the team involved in processing the available information.

[5] For a comprehensive situation of the Chalcolithic of the Bahlui basin see BOGHIAN 2004.

[6] Bahluieț is one of the main tributaries of Bahlui River.

[7] NICU 2016.

[8] BRIGAND *et al.* 2012. These are only the known sites. It is not excluded that future research in the area will lead to the identification of other Prehistoric settlements.

Methodology

In this context, the research program initiated several years ago by the Arheoinvest Platform, "Alexandru Ioan Cuza" University of Iași[9] was orientated towards the spatial analysis of the Chalcolithic habitation from the Valea Oii basin, and on understanding the risks that lead to the destruction of archaeological sites. In the last year the project has been extended with invasive investigations of these settlements in order to assess their state of preservation, establish their positioning on an accurate chronological scale (through the analysis of the ceramics and by obtaining ^{14}C datasets), but also for identifying the features that might indicate the existence of a production centre in the sites (as are the kilns for pottery firing).

The established methodology for this research entailed the following steps:

- surface survey with GPS positioning that allows an accurate localization of the settlements in the geographic area;

- analysis of the cartographic supports;

- analysis of the topography of the site through interpreting the LiDAR data;

- analysis of oblique or vertical aerial photographs in thermal or infrared spectra;

- geophysical prospecting (magnetometry, soil electrical resistance measurements and GPR) for understanding the planimetry, the extent and defensive systems of the settlements;

- test trenches on various archaeological features revealed by the magnetic scan: both domestic area as houses and pits (for ^{14}C sampling) and technological features as kilns. Also, through the test trenches are investigated the stratigraphy of the sites and their conservation estate;

- the analysis of the archaeological artefacts from the test trenches: in terms of raw material, technology, typology and functionality;

- the analysis of the archaeological eco-facts from the test trenches (the archaeozoological analysis of bones and the phyto-pollinic spectra for layers and archaeologic features).

This strategy aims to obtain results with minimum invasiveness but relevant for an attempt to interpret the complex relationships between the Prehistoric communities.

The first Chalcolithic settlement that was analysed in all these aspects was the one from *Dealul Boghiu* (also known as *Dealul Mare)* located on the promontory on the right bank of the Valea Oii brook (pl. I)[10] This promontory runs in a NW–SE direction and is affected by active landslides[11]. Its geographic coordinates are 47˚15'07" N, 27°02'27" E; the

[9] See ASĂNDULESEI 2012 and NICU 2013.

[10] NICU 2013.

[11] NICU 2013; 2016.

absolute elevation is 185 m, and the relative one 85 m[12]. At this moment the terrain is used as a pasture, but in the first half of the XXth century it was used as agricultural land.

From an administrative point of view, the territory of the site is divided between the villages of Războieni (Ion Neculce commune) and Filiași (Bălțați commune), in the western side of the Iași county, in North-Eastern Romania (pl. I).

THE OLD RESEARCHES

The location became known once Orest Tafrali published the results of his investigations, namely the test trenches that he excavated in the autumn of 1935[13]. Tafrali remarked the dominant position of *Dealul Boghiu*, a hill that was situated, according to his calculations, at eight km north from the town of Târgu Frumos[14]. In the test trenches that he investigated along with his students – V. Manoliu and Em. Codurache –, were found, at a very low depth (at half of meter or even less), the collapsed clay walls of burnt dwellings. These walls were described as being 5-10 cm thick, with imprints from their wooden substructure. The ceramics and other objects discovered during the excavations led Tafrali to consider that this settlement was inhabited in the Neolithic period. As particular finds were mentioned the small polished stone axes regarded as consecration items and a small chair made of clay with the backrest in form of horns[15]. Tafrali acknowledged the importance of the site and suggested that future systematic investigations would yield interesting results.

Twenty years later, in 1955, Natalia Berlescu and N. Zaharia undertook a field survey in the same place[16]. Natalia Berlescu published the materials collected during the investigation and considered the site to be on the territory of the Războieni village, at 6 km north-east from Târgu Frumos, relating it to other hills from the area[17]. Berlescu also provided an accurate description of the geography of the site[18]: "Its western slope is steep and cut into frequent terraces, while the eastern slope is more elongated. The hill has an elliptical plateau with a length of more than 900 m and a width of more than 150 m. The highest point of the hill is located at the middle of the plateau. Towards the SE, at its base, there is a saddle linking it to the plateau. The hill, along with the eastern edge of the plateau, is surrounded by the Valea Oii brook."[19]. During this field survey, she found fragments of

[12] ASĂNDULESEI 2017.

[13] TAFRALI 1936.

[14] TAFRALI 1936: 51.

[15] TAFRALI 1936: 52-54.

[16] BERLESCU 1955; ZAHARIA, PETRESCU-DÎMBOVIȚA, ZAHARIA 1970: 193.

[17] BERLESCU 1955: 153.

[18] BERLESCU 1955: 153.

[19] BERLESCU 1955: 153.

walls, platforms, hearths, but also an appreciable quantity of ceramics[20]. She divided the pottery, depending on its paste, in two categories: very fine paste, which was decorated through painting, and the ceramics of a good quality paste, with small pebbles and grog in its composition, decorated with plastic motives[21]. Berlescu stated that the ceramic is typical for the Cucuteni A phase, having analogies in the materials from other settlements as those from Hăbășești, Trușești and Ruginoasa[22]. In the article published by Berlescu one can also notice a pottery fragment originating from a Cucuteni C vessel[23].

N. Zaharia also mentions the site in the repertoire of the settlements from Moldavia[24], considering it as being on the territory of the village of Făcuți-Podișul (Bălțați comune). He depicts an *en violon* statuette[25] as coming from *Dealul Boghiu* and supposed that all the flint flakes covered by patina discovered in this place belonged to the end of the Upper Palaeolithic[26].

The site was later investigated through field survey, in 1984-1985, by D. Boghian and C. Mihai[27]. It also appears mentioned in other repertoires[28].

THE RECENT RESEARCH (2010-2017)

The non-invasive surveys

The methodological approach for investigating *Dealul Mare/Dealul Boghiu* was based on ALS (Airborne Laser Scanning) measurements, aerial photographs and geophysical prospection (soil electrical resistivity, total field and vertical gradient magnetometry) and their integration, analysis and interpretation in a Geographic Information System (GIS) environment. Published materials and field survey data were also employed. In our research, we chose this approach to ensure that we can detect most types of cultural anomalies since the contrast displayed by the archaeological structures, as well as the signatures generated by them, differ according to the prospecting method employed, climatic, environmental conditions, and other factors.

[20] BERLESCU 1955: 153.

[21] BERLESCU 1955: 153-154.

[22] BERLESCU 1955: 153-154.

[23] BERLESCU 1955: 156, fig. 3/1.

[24] ZAHARIA, PETRESCU-DÎMBOVIȚA, ZAHARIA 1970: 193.

[25] ZAHARIA, PETRESCU-DÎMBOVIȚA, ZAHARIA 1970: pl. CLXXIV/1.

[26] ZAHARIA, PETRESCU-DÎMBOVIȚA, ZAHARIA 1970: 193.

[27] BOGHIAN 2004.

[28] At CHIRICA, TANASACHI 1984, I: 47/ IV.3 the site appears as belonging to the Filiași village, while at VĂLEANU 2003 as belonging to the Podișu village.

Based on these research results, a completely new planimetric organisation of the *Dealul Mare/Dealul Boghiu* site has been revealed[29] (pl. II). The existence of a fortified area in the NNW, with a high density of archaeological structures, certainly represents the initial core of the settlement from which the habitation extended towards the SSE as the number of inhabitants increased. The buildings in the group towards the NNW of the site are placed in a semicircle, with the highest density in the SW, along the path of the ditches[30]. The strong intensity of the magnetic signal of the two large ditches that protect the congested area in the NNW of *Dealul Boghiu* represents a very clear contrast of magnetic susceptibility. It is also possible that the access areas had gates[31]. Although the settlement is naturally protected by steep slopes on the northern, eastern and western sides, these areas seem to have been enclosed, probably with palisades, perhaps due in part to the risk of people and animals falling down the slopes or to block access of the herds to those areas. Another core element of originality in the Cucuteni culture revealed by our results is the presence of consistent habitation outside the main fortified area, with houses placed in three rows in a pattern different from the fortified area. The habitations outside the fortified area are also surrounded by three parallel curvilinear ditches[32]. While their functionality is difficult to establish, what is certain is that their dimensions (narrower and shallower) prove they did not have a defensive character. Perhaps their role was symbolic and apotropaic, to isolate the settlement. On the other hand, if the ditches are part of a more complex system of palisades, we could similarly suggest them as a method to fortify the site.

In the northern half of the promontory, in an area with high concentration of ceramic fragments, the caesium magnetometer survey revealed at least 15 features that can be interpreted as Cucuteni dwellings; most range between 10-13 m in length, and 5-7 m in width[33]. The distribution of structures seems to be clear in the exterior area. At least ten rectangular dwellings are distinguished that are heavily burned and with a NE–SW orientation.

All the magnetic features assigned to be part of the Cucuteni settlement are covering approximately 2.6 hectares[34].The site was probably larger in Chalcolithic times, since parts of it are destroyed by natural or anthropic factors.

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[29] ASĂNDULESEI 2017.

[30] ASĂNDULESEI 2017.

[31] ASĂNDULESEI 2017.

[32] ASĂNDULESEI 2017.

[33] ASĂNDULESEI 2017.

[34] ASĂNDULESEI 2017.

The 2017 excavations

The archaeological features

The excavation from the year 2017 at Războieni - *Dealul Boghiu*[35] was carried out in order to fulfil three main objectives:

- collection of samples for radiocarbon dating in order to have a more precise chronological framing of the Cucuteni settlement;
- establishing the state of conservation of the site and its stratigraphy;
- identifying the nature of the features that caused some of the magnetic anomalies outside the settlement, suspected to indicate the existence of pottery kilns.

Three sections (I to III) (pl. II&III) were investigated. The sections I and III (2x2 m, with a north-south orientation) were opened to check the nature of the magnetic anomalies considered to be kilns, while section II (1x15 m, a NNW-SSE orientation) was intended to sample bones from a Chalcolithic dwelling for radiocarbon dating. For this task, it was chosen a dwelling, which through its placement on the settlements plan, seems to be one of the latest, being situated near the exterior defensive trenches.

In the sections I and III were intersected two archaeological features dating from the Second World War, features whose magnetic signal misled their initial interpretation in the geomagnetic map of the site (pl. IV).

The close similarities of the tested features with the ones previously associated with a strongly burnt structure (such as a kiln), in terms of shape, intensity and dipole orientation (with negative values to the north), were the main reasons for which we assumed that these could be of archaeological interest. Metal objects found in the test pits were oriented approximately north-south and not very well preserved (corroded), hence the low magnetic intensity for metal pieces, around 60-70 nT.

The first of the features (from section I) was in fact a small pit (of 15 cm depth: from -0,30 to 0,45 m: pl. IVa), of 50 cm in diameter with filling composed of fragments of rusted cans and a cartridge tube (of German provenience) from the Second World War. The cartridge tube was better preserved that the cans and on its headstamp is barely decipherable the inscription: 38 P IV?? 6.

The second feature from the Second World War is a military trench that was revealed in Section III, on a length of almost 2 m and a width of 40 cm, with a north-west

[35] The investigations were undertaking under the authorization 98/26. 04. 2017 released by the Department for Cultural Heritage from the Ministry of Culture and National Identity. At the field work participated, along with the authors of the present paper also C. Nicu, A. Mihu-Pintilie, R. Balaur, V. Mihu ("Alexandru Ioan Cuza" University of Iași), A. Țerna (Botoșani County Museum), S. Țerna (High Anthropological School of Chișinău), and R. Furnică. We thank them for their help during the field work.

orientation. On the bottom of the trench (at -0.65 m from the actual surface) rested a German military helmet (pl. IVB).

The stratigraphy of these two archaeological sections is simple: under the black chernozem top soil (of 20-30 cm) can be found approximatively 10 cm of a transitional soil, of a gradient brown colour, under which follows the yellow loess.

In the section II, which was intended to transversally intersect a Chalcolithic dwelling, another feature from the Second World War appeared: another military trench (pl. V), with a north-south orientation. However, the large magnetic anomaly representing a heavy burnt Cucuteni construction was confirmed.

The Chalcolithic dwelling was revealed at a depth of -0,30 m, in the squares 11-12 and at -0,40 m in the other squares (9-10 and 13-14), suggesting that the walls collapsed in some parts of the construction on some existing features from inside the house (pl. VI). The remains of the construction are in the form of an agglomeration of burnt clay mixed with chaff, constituting the remains of the fallen walls. They laid on a length of six meters from the archaeological section. The observed thickness of the walls was of 5-6 cm and had imprints from the wooden substructure on which the clay wall was elevated. Those imprints have a diameter of 6-7 cm. Near the crushed walls was discovered a quern that rested on the ancient soil, indicating thus that Prehistoric stepping layer was underneath, at -0,45 m depth from today's topsoil (pl. VI).

In the south-eastern side of the dwelling, we investigated its annex (most probably a domestic area; at the depth of -0.40 m), on a length of four meters: it consisted of pottery and burnt clay, without forming a compact mass (pl. VI). In this space, we discovered a clay plaque with two holes in it, coming most probably from an oven (pl. VII/14). The plaque was made from a dense clay paste with chaff and grog in its admixture. It was fragmented in Prehistory, its current dimension being 23x18 mm, with a thickness of 4.5 cm. It was well smoothed on one side. The holes are oblique and have a diameter of almost 2 cm each.

The stratigraphy of the section II can be described as: the actual vegetal layer (~ 20 cm thick) overlaps the layer corresponding to the Cucutenian habitation (~ 25 cm thick: a dark brown gradient to light brown at the base), followed directly by the yellow loess (pl. Vb).

We summed up to document, by drawing and photography the level of destruction of the dwelling (the collapsed walls).

The main problem that we encountered when sampling bones for radiocarbon dating was the fact that these are rare and when found they looked severely affected by the high acidity of the soil. Also, the ceramics from the site is covered by a black patina that obstructs the painted motives in most of the cases.

The artefacts discovered during the 2017 investigations

1. Ceramics

The main category of artefacts discovered during the newest research is represented by ceramics. The painted materials indicate the Cucuteni A_3 phase as previously stated by others[36]. The material is highly fragmented, fact that hindered a deeper analysis of the decoration and shape of the vessels. As forms, we identified the beaker, the bitronconic vessels, the pot-stands, and stemmed fruit-plates. The surface of the painted pottery is, usually, highly corroded and therefore the preservation of the decoration is rather poor. However, within the assemblage originated from the 2017 excavation we were able to observe the overwhelming predominance of polychromy on white background. At this point of the research, we may attribute the analysed assemblage to the Cucuteni A_{3b} sub-phase (pl. VII/1-12).

While the pottery assemblage is still under study, a few preliminary considerations may already be presented. A first step in the analysis of the Războieni-*Dealul Boghiu* pottery discovered during the 2017 excavation is constituted by the macroscopic identification and characterization of the types of pottery fabrics. To this end, thick-sections from 28 pottery fragments were macroscopically analysed with the help of a Munsell soil-colour chart in order to approximate the proportions of non-plastic inclusions and to describe the colour of the samples (Table 1). The colour of the samples was described according to the methodology proposed by Orton, Tyers and Vince[37].

The characteristics of the macroscopic optical porosity were analysed with the help of an Optika SZM A1 stereomicroscope coupled with a 5Mp Optika B5 camera, at 50x magnification. For each sample, four random photographs were taken and processed[38] according to a previously established methodology[39]. Due to our interest in the characterisation of only the macroscopic features of the fabric and the focus on total optical porosity, during the final step of the analysis we have chosen to include the pores with an area larger than 0.01 mm^2. We have also included in the count the pores sectioned by the edges of the field of view, which would normally be excluded in an analysis also aimed at the morphological characterization of the porosity. The results of the digital image analysis were then explored with the help of principal component analysis[40] in order to identify any grouping of the three dimensions used: number of pores (Count), the cumulative area of the identified pores (Total Area), and the percentage of the cumulative area of the pores

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[36] BOGHIAN 2004.

[37] ORTON, TYERS, VINCE 1993.

[38] The digital images processing was accomplished using the Fiji distribution of ImageJ: SCHINDELIN *et al.* 2012.

[39] BODI *et al.* 2017.

[40] All statistical operations and subsequent graphical visualization were performed and obtained in R: R CORE TEAM 2017; RSTUDIO TEAM 2016.

from the total surface of the image (%Area). Given the loading values of the three variables (Table 2), only Count and %Area will be used in the further description of the pottery types.

Through the consideration of both the macroscopic characteristics of the fabric and porosity, we have defined eight types of pottery.

Type 1a consists of samples 2, 5, 7, 17, and 23 that present negatively correlated scores with the loadings associated both to Count and to Area Variables (pl. VIII). The fabric is characterized by a matrix with little non-plastic inclusions, consisting mainly of fine quartz and calcite particles. The firing seems to have been generally sufficient as to produce a uniform light/yellowish red colouring of the shards (Table 1). The optical porosity is characterized by few pores (mean=5.95/sample) of small dimensions (mean=0.55% optical porosity/sample). The variation of the variables within the group is also limited, with 50% of the data falling between 5.81 and 6.25 pores/sample, and 0.45% and 0.63% for optical porosity (Table 3).

Type 1b is represented by samples 18 and 19 (pl. VIII). It shares the general features of type 1a, except the fabric presents between 5-10% non-plastic inclusions consisting also of grog particles with the maximum diameter smaller or equal to 2 mm. The firing has produced uniform colouring of shards' section. The brownish colour of the shards in this group is most likely related to the characteristics of the clay (Table 1). A better processing of the raw material gives this group a more compact matrix with lower porosity, as illustrated by higher negatives scores associated to the principal component variables loadings. The summary statistics for this group show that the mean number of pores/sample is 4.87 and the mean percentage of optical porosity/sample is situated at 0.39%, values significantly below those of type 1a (Table 4).

Type 1c is represented by samples 12, 24, 31. This type presents the highest negative scores the Count variable, but the Area variables present almost no influence (pl. VIII). The fabric is characterized by a matrix similar to type 1a, with few non-plastic inclusions, consisting mainly of fine quartz and calcite particles. The firing seems to have been generally sufficient as to produce a uniform red colouring of the shards' sections (Table 1). The optical porosity is characterized by fewer pores than types 1a and 1b (mean=3.16/sample). With a mean of optical porosity/sample of 0.34%, this type seems to have benefited of the same thorough raw material preparation as type 1b (Table 5).

Type 2a is represented by samples 1, 4, 14, 25, 28, and 29 and presents negatively correlated scores with the loading associated to the Count variable, but it is positively correlated to the Area Variables (pl. VIII). The fabric is characterized by a matrix with very few fine quartz and calcite non-plastic inclusions. The firing has produced a uniform light/yellowish-red to red colouring of the shards' sections (Table 1). The optical porosity is characterized by few pores (mean=4.41/sample) but of larger dimensions than the types 1a-1c (mean=0.76% optical porosity/sample). The variation of the variables within the

group is still limited, with 50% of the data falling between 4.2 and 4.7 pores/sample, and 0.69% and 0.84% for optical porosity (Table 6).

Type 2b is represented by samples 10 and 11. It shares the general features of type 2a, except the lower scores of the loadings associated to the Count variable and higher scores on the Area Variables (pl. VIII and Table 1). This translates to an optical porosity characterized by a larger number of pores (mean=6/sample) with also larger dimensions (mean=1.43% optical porosity/sample) (Table 7).

Type 3a is represented by samples 8, 13, and 16 and presents positively correlated scores with the loading associated to the Count variable but is negatively correlated to the Area Variables (pl. VIII). The fabric is characterized by a fine matrix with less than 5% fine quartz and calcite non-plastic inclusions. The firing has been of sufficient duration and intensity as to produce a uniform red colouring of the shards' sections (Table 1). The optical porosity is characterized by an almost double number of pores as for the types 1a-1c (mean=8.08/sample) and with slightly larger dimensions (mean=0.56% optical porosity/sample) (Table 8).

Type 3b is represented by samples 9 and 22 (pl. VIII). It shares the general features of type 3a, except the fabric presents between 5-20% non-plastic inclusions consisting also of grog particles with the maximum diameter smaller or equal to 3mm. The firing has produced uniform brownish colouring of shards' section (Table 1). The summary statistics for this group show that the mean number of pores/sample is 10.12 and the mean percentage of optical porosity/sample is of 0.75% (Table 9).

Type 4 is represented by samples 26 and 27 and presents positively correlated scores with the loadings associated both to Count and to Area Variables (pl. VIII). The fabric is characterized by a relatively high percentage (5-10%) of non-plastic inclusions consisting especially of coarse quartz and calcite particles. The firing has been of sufficient duration and intensity to ensure a uniform red colouring of the shards (Table 1). The optical porosity is characterized by the highest number of pores (mean=11.25/sample) with large dimensions (mean=2.60% optical porosity/sample) (Table 10).

Sample no. 3 presents low scores with the loadings associated both to Count and to Area Variables (pl. VIII). Given its position on the principal component plot and the presence of grog as tempering, this sample may be equally attributed to groups 1b or 3b (Table 1).

Sample no. 6 presents high positive scores associated with the loadings of the Count variable and high negative scores associated with the loadings of the Area Variables (pl. VIII). Taking also into consideration the incomplete firing illustrated by the dark colour of the core and interior core border and surface, we consider this sample to be an incidental outlier (Table 1).

Sample no. 32 presents porosity characteristics similar to group 1a (pl. VIII). Given the incomplete firing illustrated by the dark colour of the core and interior core border and

surface and the presence of coarse non-plastic inclusions, we consider this sample to illustrate rather an import (Table 1).

Within the ceramic assemblage recovered from the remains of the Chalcolithic dwelling, one fragment is decorated with incisions and grooves: the fragment is too small to determine the shape of the vessel. It is from a good paste, with grog in it, black in the interior and reddish on the exterior.

2. Other artefacts

Along with the ceramics, other artefacts were found in the cultural layer or in the archaeological features during the excavation of the three sections. From the cultural layer comes a cvasi-discoidal bead made of clay and decorated with incisions (diameter=17 mm, thickness=6 mm: pl. VII/13) and an object made of clay mixed with chaff. From the annex of the dwelling comes a fragment from a zoomorphic statuette. A fragment from a polished stone axe from marl, an anthropomorphic statuette, fragments of clay plaques and ceramics were discovered on the surface of the soil.

Only three **chipped stone artefacts** were discovered during the researches from 2017 (pl. IX). One of these artefacts, an endscraper made on a fine denticulated blade comes from the surface of the topsoil (dimensions: length=48, width=15 and thickness= 4 mm) (pl. IXa). The blade has a small plain butt, no bulb, a curved profile and a trapezoidal cross-section, being most probably detached through soft hammer percussion from a unipolar core. On its distal extremity, it has a removal that probably occurred during the use of the endscraper on a hard material that lead to its abandonment. The fact that this removal occurred somewhere in prehistory is demonstrated by the patina that covered the entire surface of the piece.

The other two chipped stone artefacts were discovered in the Section II: one in the annex of the dwelling and the other in the cultural layer. Their raw material is the flint specific for the Cenomanian deposits from the Middle Prut River. One is a borer (dim. in mm: 26, 10, 3: pl. IX/b) made on a blade fragment through bifacial retouching the two convergent edges. The tip of the artefact broke during its employment in hard animal material boring. Also, on its left edge, the borer also has wear coming from its use in hard animal material cutting.

From the cultural layer comes a flake (dim. in mm: 26, 10, 3) with a small cortical butt. The flake was knapped from a core with a changed orientation.

CONCLUSIONS

The new investigations from Războieni – *Dealul Boghiu* site revealed some aspects of the Cucuteni settlement that will help us continue the research regarding the ranking and relationships that developed between the Chalcolithic settlements from the Valea Oii Basin. Thus, at the moment, as a result of the investigations from the last decade, we have a clear

view on the planimetry and the extension of this specific settlement, a more precise framing of the last phases of habitation of the settlement (in the Cucuteni A_{3b} sub-phase). Another result of the invasive investigation was the one regarding the existence of kilns in the site. As it turns out, the anomalies from the magnetic map that were initially interpreted as kilns are, in fact, disturbances of the site produced by the Second World War.

We were also able to evaluate the degree of preservation of the site. Except for the areas affected by the World War II features, the Chalcolithic cultural layer was disturbed also by the agricultural practices from the beginning of the last century, fact that allowed N. Berlescu in the 50s to gather artefacts from the surface of the site. Although the place is used as pasture at the moment, the quantity of artefacts from the site's surface is also high. In addition, the site is affected by active landslides[41].

The summary analysis of the pottery assemblage from Războieni – *Dealul Boghiu* presents three different technological choices. The most common, illustrated by types 1a, 1c, 2a-b, and 3a is characterized by the use of carefully selected fine clay. Well-sorted fine sand may have been added as temper, but at this point of the investigation, it is impossible to distinguish it from the naturally present quartz particles of the clay matrix. The difference between the traditional fine and intermediate wares within this technological group is given only by the care of the kneading of the clay and forming of the pot. The second technological group consists of types 1b, 3b, and sample no. 3. It differs from the first technological group through the use of grog temper. Since both fine and intermediate wares are present within this group, we are inclined to speculate that we are most likely dealing with a different local manufacturing tradition, rather than imports. We may therefore assume the presence within the Războieni – *Dealul Boghiu* settlement of at least two different manufacturing traditions. The third technological group is characterized by type 4 and presents rather common choices for the production of coarse pottery: selection of a coarser raw material and/or addition of coarse temper, and a more expedited treatment of the kneading and forming stages. We will continue the investigation of the pottery assemblage with a more thorough characterization of the porosity matrix, including the pore morphology, and we aim to attempt also a complex structural analysis, in hope to clarify the origin of the second technological group.

As far as possible, we intend to continue the archaeological research of the site, primarily to probe the defensive systems of the settlement and to establish the chronological relationship between the dwellings situated between the groups of ditches and those considered to be the initial nucleus of the settlement (inside the first group of ditches).

[41] NICU 2016: 67.

AUTHOR CONTRIBUTIONS

A.A. initiated the research of the spatial distribution of the Cucuteni settlements from Valea Oii, performed and interpreted the geomagnetic scan, extent and planimetry of the site; G.B. analyzed the ceramics in terms of fabric, decoration and shape, F.-A.T. conducted the 2017 excavations and D.-M. Vornicu documented the old researches, processed the items and the documentation from the new excavations, analyzed the chipped stone artefacts and summarized, with F.-A.T, the available data.

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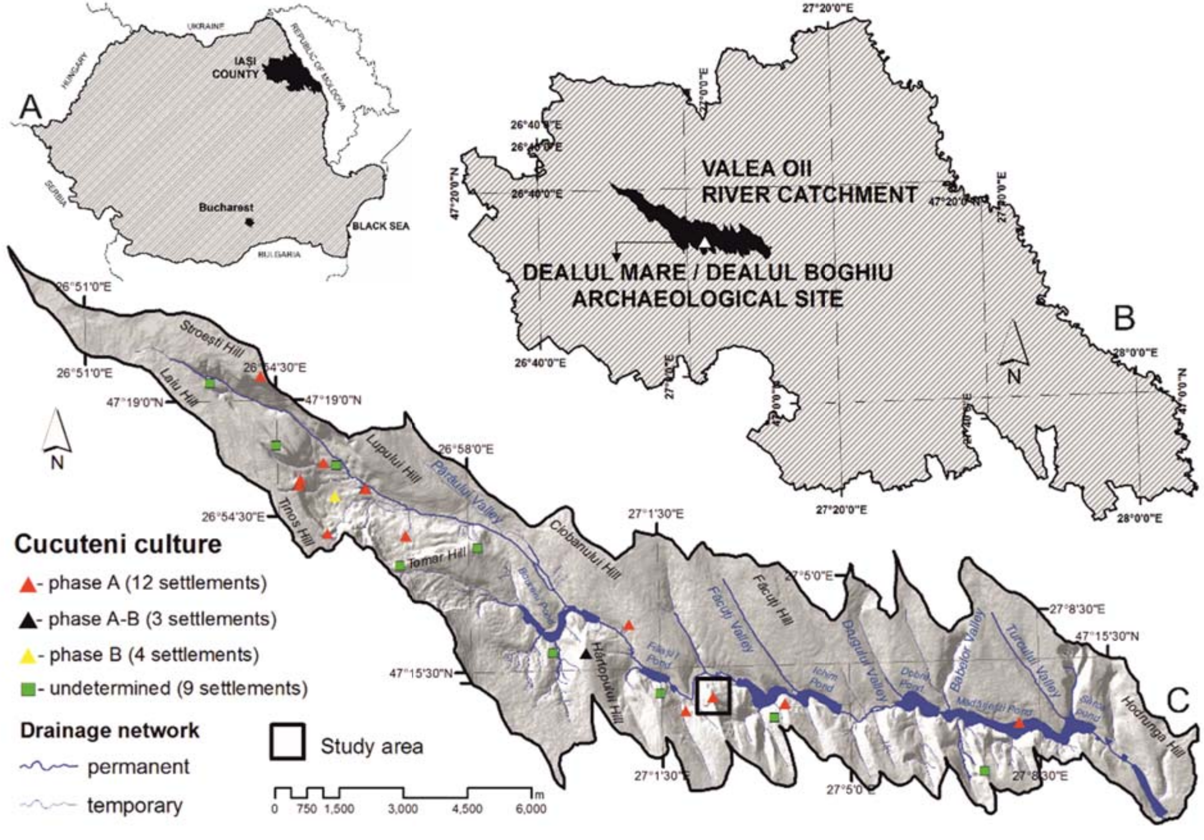
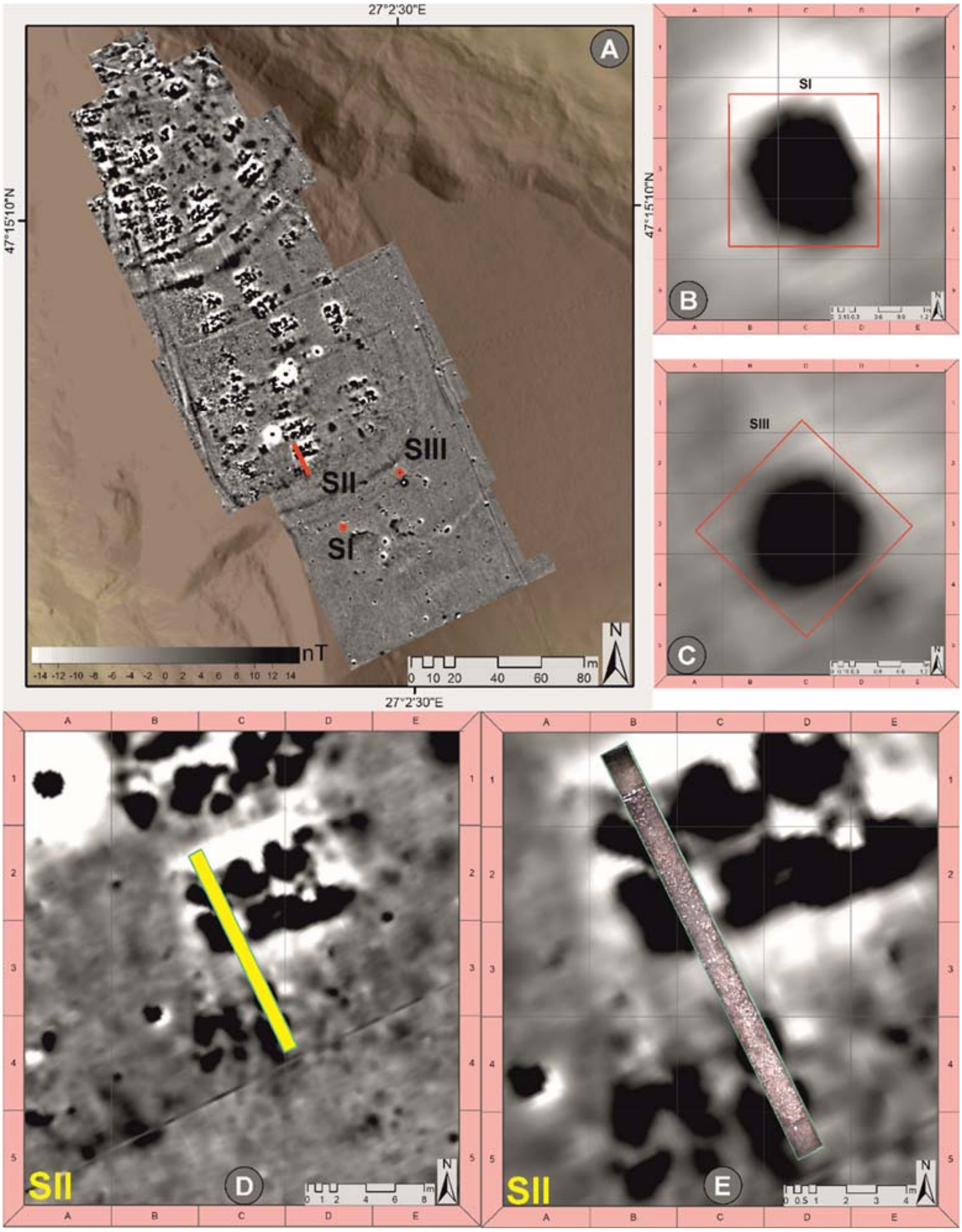
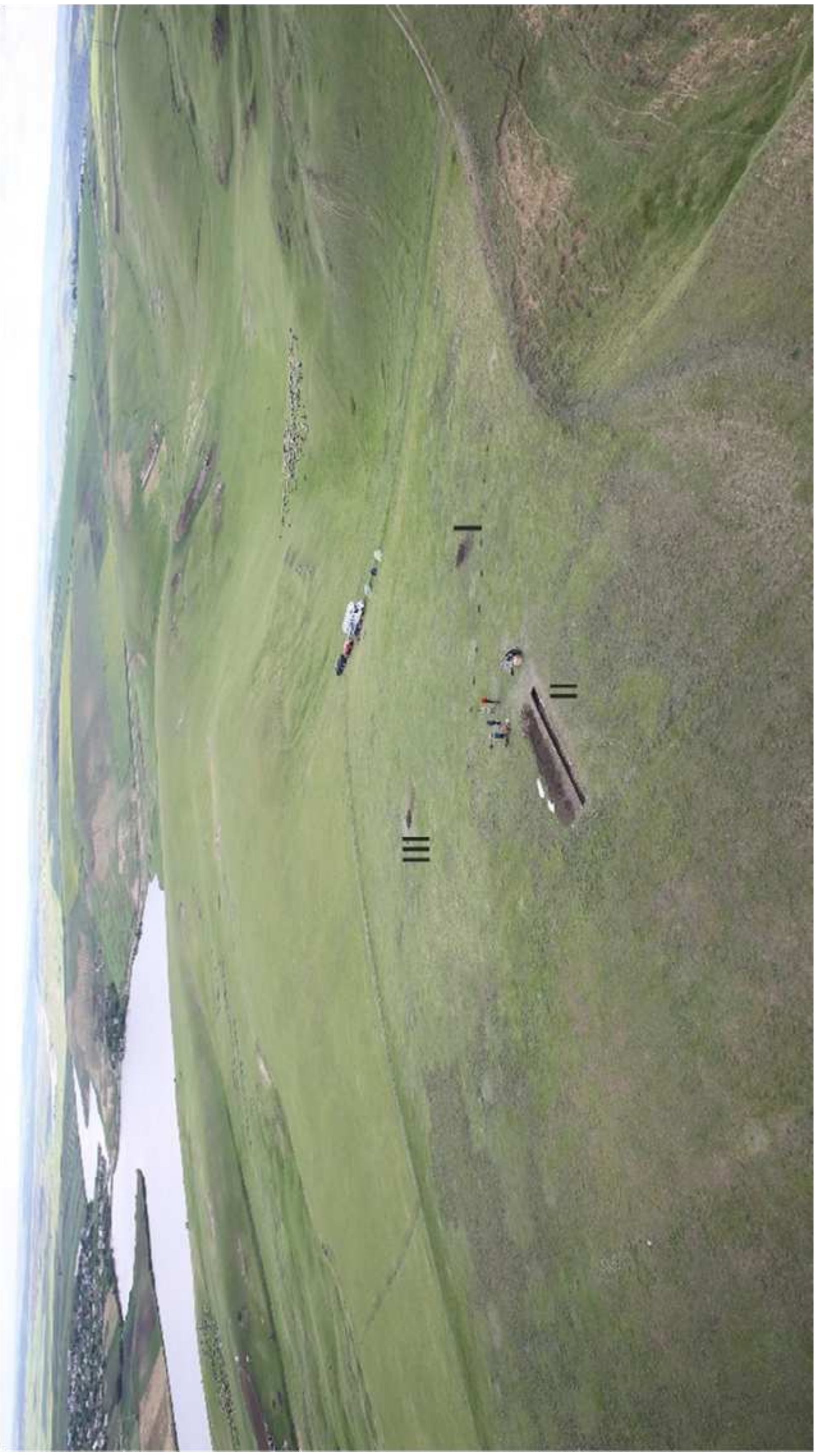


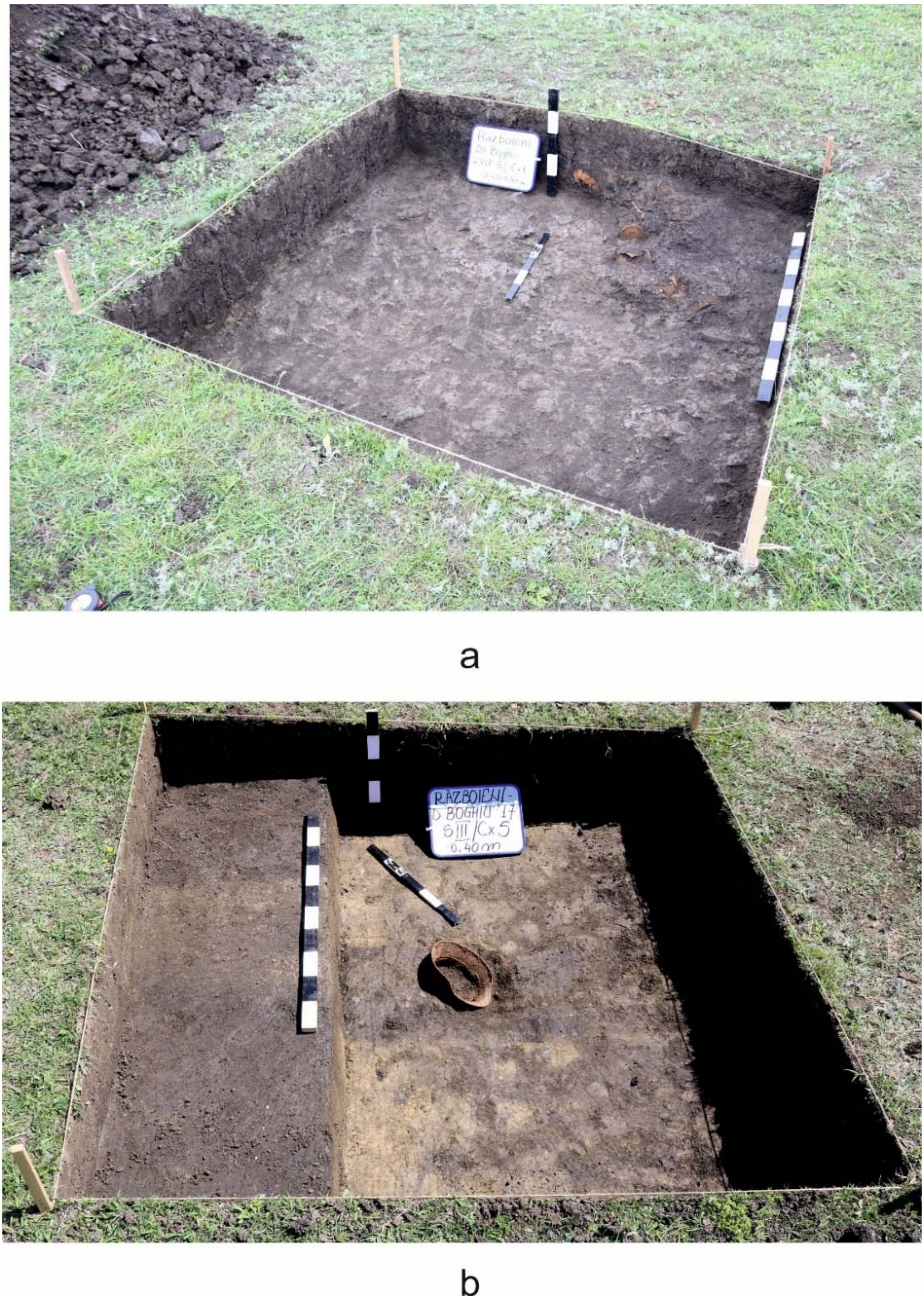
Pl. I. The location of the study area in Romania (**A**), Iași County (**B**) and the Valea Oii basin (**C**); 2.5 m/pixel resolution Digital Elevation Model (DEM) and hydrological network – Nicu, C. (after ASĂNDULESEI 2017).



Pl. II. The geomagnetic scan of the site (A) and the localisation of the test trenches of 2017 (B-E).

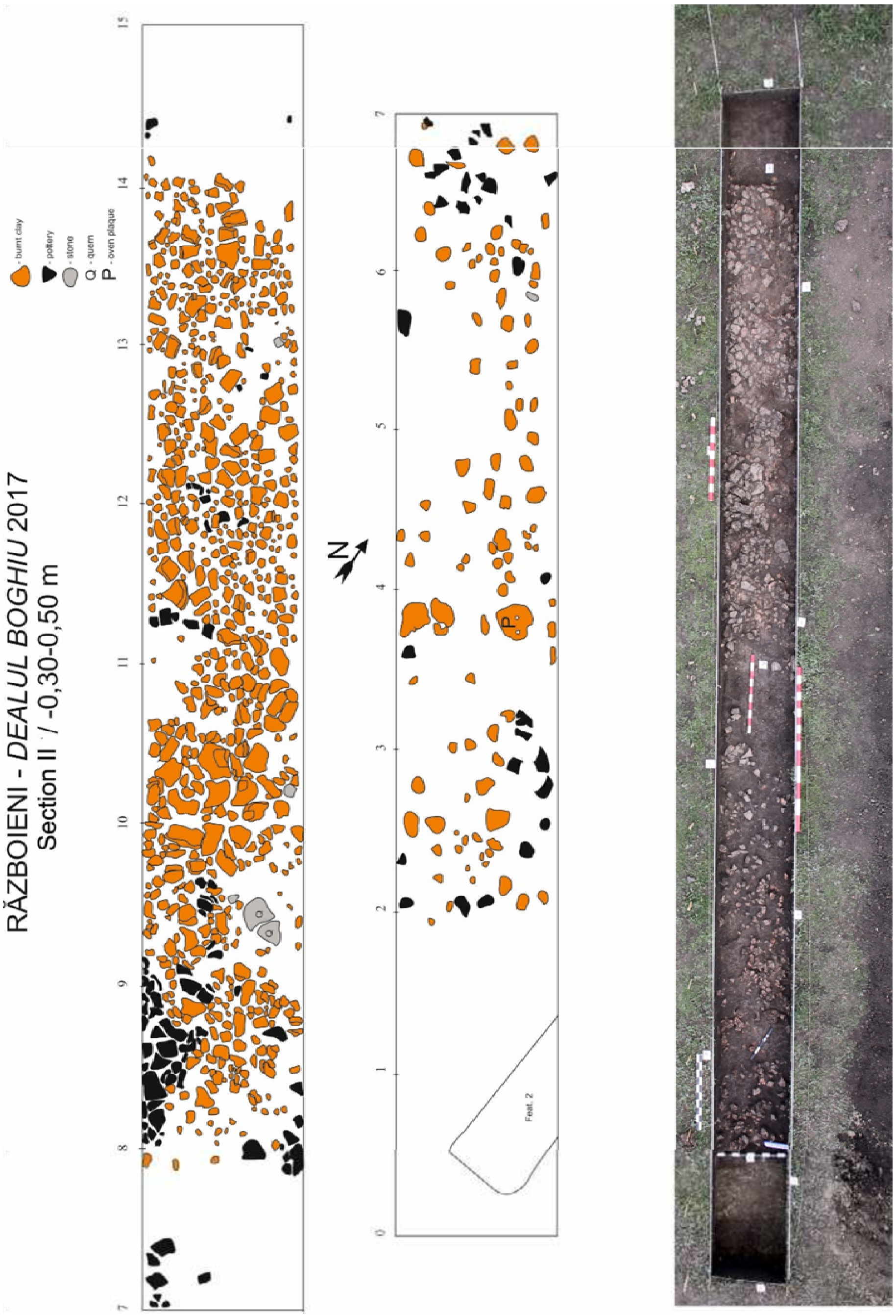


Pl. III. Războieni – *Dealul Boghiu*. Aerial view on the three test trenches.



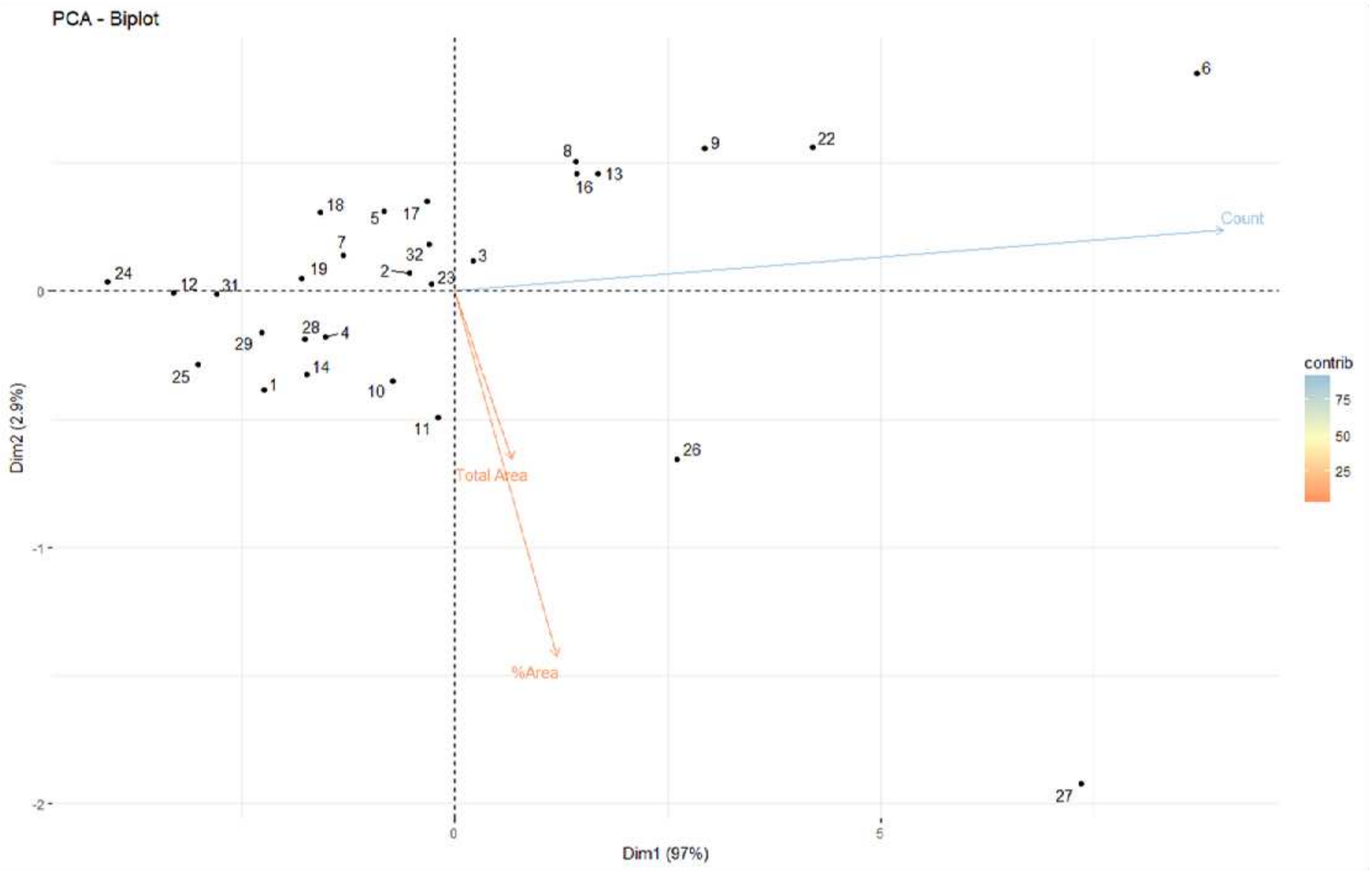
Pl. IV. Războieni – *Dealul Boghiu.* Vestiges from the Second World War discovered in the test trenches I (a) and III (b).

Pl. V. Războieni – *Dealul Boghiu.* Second World War trench in plan (a) and profile (b).

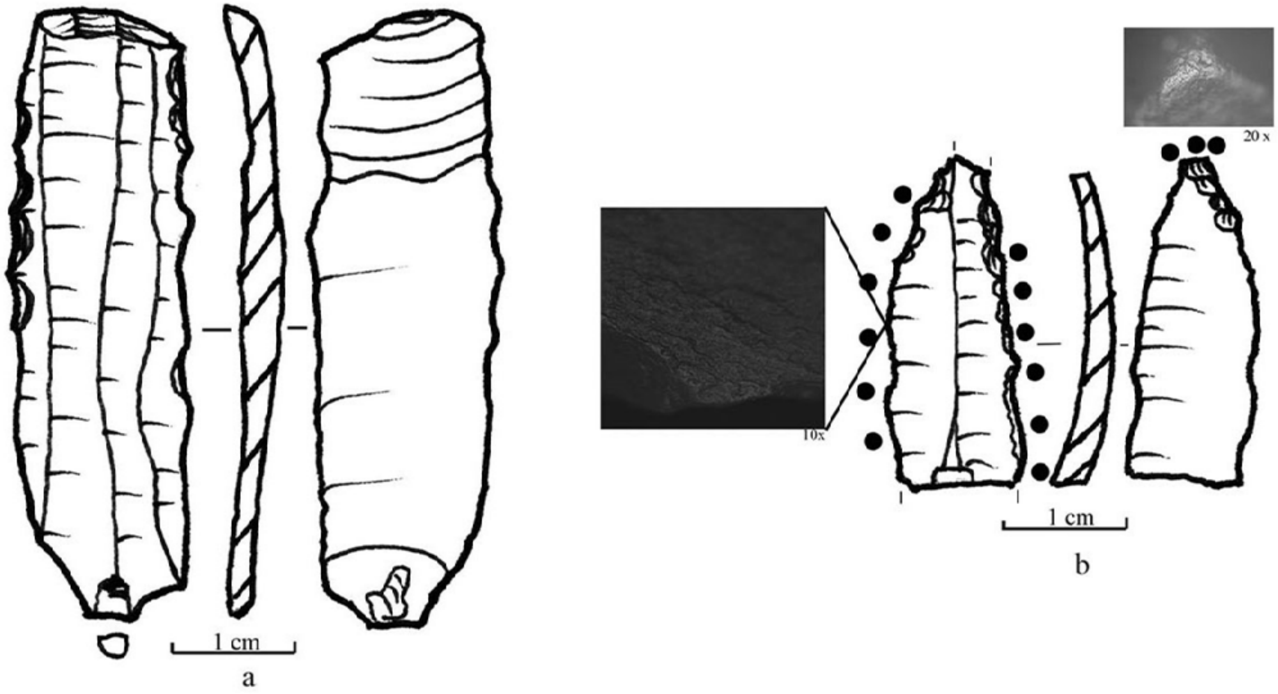


Pl. VI. Războieni – *Dealul Boghiu*. The remains of the Chacolithic dwelling.

Pl. VII. Războieni – *Dealul Boghiu*. Ceramics (1-12), bead (13) and clay plaque (14) discovered in the site. The bar beside each artefact is 3 cm long.

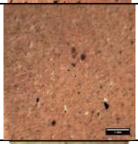
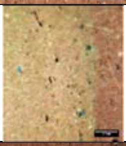
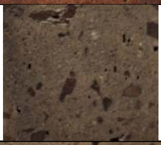


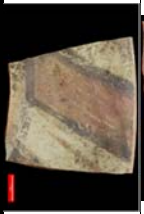
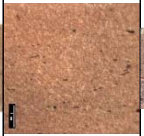
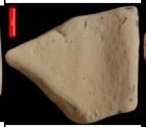
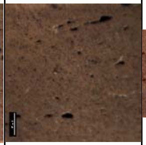
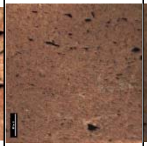
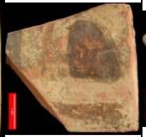
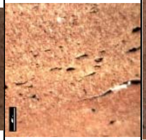
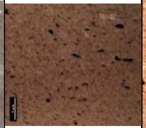
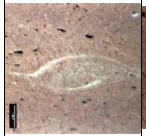
Pl. VIII. Războieni – *Dealul Boghiu*. Principal component analysis biplot including loadings of the variables of ceramics.

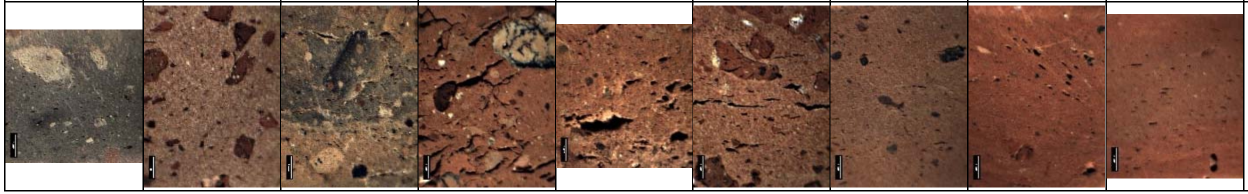


Pl. IX. Războieni – *Dealul Boghiu*. Lithic assemblage: a) endscraper, b) borer used in hard animal material boring and cutting.

Table 1. Războieni – *Dealul Boghiu*. Overview of the fabric structure and porosity characteristics of the ceramic samples.

SAMPLE ID	TYPE	OPTICAL POROSITY	INCLUSIONS frequency	INCLUSIONS size	INCLUSIONS type	COLOUR 3	COLOUR 2	COLOUR 1	COLOUR 2a	COLOUR 3a	COLOUR colour	POTTERY	SECTION
2	1a	0.65%	5-10%	>0.1mm	Quartz, Calcite, Fragments of rocks	2.5YR 5/6	2.5YR 5/6	2.5YR 5/6	2.5YR 5/6	2.5YR 5/6	red		
5	1a	0.41%	>5%	>0.1mm	Quartz, Calcite	5YR 5/8	5YR 5/8	2.5YR 5/8	5YR 5/8	5YR 5/8	yellowish red/ red/ yellowish		
7	1a	0.50%	>5%	>0.1mm	Quartz, Calcite	2.5YR 6/8	2.5YR 6/8	2.5YR 6/8	2.5YR 6/8	2.5YR 6/8	light red		
17	1a	0.45%	>5%	>0.1mm	Quartz, Calcite	5YR 5/8	5YR 5/8	5YR 6/8	5YR 6/8	5YR 6/8	red/light red		
23	1a	0.71%	>5%	>0.1mm	Quartz, Calcite	5YR 5/8	5YR 5/8	5YR 5/8	5YR 5/8	5YR 5/8	yellowish red		
18	1b	0.29%	5-10%	≥2mm	Quartz, Calcite, Grog	7.5YR 6/4	7.5YR 5/4	7.5YR 5/4	7.5YR 5/4	7.5YR 5/4	light brown/brown		
19	1b	0.49%	>5%	≥2mm	Quartz, Calcite, Grog	7.5YR 6/4	7.5YR 6/4	7.5YR 6/4	7.5YR 6/4	7.5YR 6/4	light brown		
12	1c	0.37%	>5%	>0.1mm	Quartz, Calcite	2.5YR 6/6	2.5YR 6/6	2.5YR 6/6	2.5YR 6/6	2.5YR 6/6	light red		
24	1c	0.21%	>5%	>0.1mm	Quartz, Calcite	2.5YR 5/8	2.5YR 5/8	2.5YR 5/8	2.5YR 5/8	2.5YR 5/8	red		

SAMPLE ID	TYPE	OPTICAL POROSITY	INCLUSIONS frequency	INCLUSIONS size	INCLUSIONS type	COLOUR 3	COLOUR 2	COLOUR 1	COLOUR 2a	COLOUR 3a	COLOUR colour	POTTERY	SECTION
31	1c	0.45%	>5%	>0.1mm	Quartz, Calcite	2.5YR 5/8	2.5YR 5/8	2.5YR 5/8	2.5YR 5/8	2.5YR 5/8	red		
1	2a	0.85%	>5%	>0.1mm	Quartz, calcite	2.5YR 5/6	2.5YR 5/6	2.5YR 5/6	2.5YR 5/6	2.5YR 5/6	red		
4	2a	0.80%	>5%	>0.1mm	Quartz, Calcite	5YR 5/6	5YR 5/6	5YR 5/6	5YR 5/6	5YR 5/6	yellowish red		
14	2a	0.89%	>5%	>0.1mm	Quartz, Calcite	2.5YR 6/6	2.5YR 5/6	2.5YR 5/6	2.5YR 5/6	2.5YR 5/6	light red/red		
25	2a	0.69%	>5%	>0.1mm	Quartz, Calcite	5YR 5/8	5YR 5/8	5YR 5/8	5YR 5/8	5YR 5/8	yellowish red		
28	2a	0.73%	>5%	>0.1mm	Quartz, Calcite	5YR 6/4	5YR 6/4	5YR 6/4	5YR 6/4	5YR 6/4	light reddish brown		
29	2a	0.64%	>5%	>0.1mm	Quartz, Calcite	2.5YR 6/6	2.5YR 6/6	2.5YR 6/6	2.5YR 6/6	2.5YR 6/6	light red		
10	2b	1.03%	>5%	>0.1mm	Quartz, Calcite	2.5YR 6/8	2.5YR 6/8	2.5YR 6/8	2.5YR 6/8	2.5YR 6/8	light red		
11	2b	1.25%	>5%	>0.1mm	Quartz, Calcite	2.5YR 6/8	2.5YR 6/8	2.5YR 6/8	2.5YR 6/8	2.5YR 6/8	light red		
8	3a	0.54%	>5%	>0.1mm	Quartz, Calcite	2.5YR 5/6	2.5YR 5/6	2.5YR 5/6	2.5YR 5/6	2.5YR 5/6	red		

32	3	6	27	26	22	9	16	13	SAMPLE ID	
unique	1b/3b	unique	4	4	3b	3b	3a	3a	TYPE	
0.60%	0.69%	1.21%	3.45%	1.77%	0.83%	0.67%	0.55%	0.60%	OPTICAL POROSITY	
>5-10%	10-20%	5-10%	5-10%	5-10%	10-20%	5-10%	>5%	>5%	frequency	INCLUSIONS
>1mm	>2mm	>0.1mm	>2mm	>0.5mm	>3mm	>1mm	>0.1mm	>0.1mm	size	
Quartz, Calcite	Quartz, Calcite, Grog	Calcite, Quartz,	Quartz, Calcite	Quartz, Calcite	Quartz, Calcite, Grog	Quartz, Calcite, Grog	Quartz, Calcite	Quartz, Calcite	type	
7.5R 5/8	2.5YR 6/4	5YR 5/6	2.5YR 6/6	2.5YR 5/6	2.5YR 6/8	2.5YR 6/8	2.5YR 5/6	2.5YR 5/6	3	COLOUR
2.5YR 3/1	2.5YR 6/4	5YR 5/6	2.5YR 6/6	2.5YR 5/6	2.5YR 6/8	2.5YR 6/8	2.5YR 5/6	2.5YR 5/4	2	
2.5YR 3/1	2.5YR 6/4	5YR 4/1	2.5YR 6/6	2.5YR 5/6	2.5YR 6/8	2.5YR 6/8	2.5YR 5/6	2.5YR 5/4	1	
2.5YR 3/1	2.5YR 6/4	5YR 5/6	2.5YR 6/6	2.5YR 5/6	2.5YR 6/8	2.5YR 6/8	2.5YR 5/6	2.5YR 5/4	2a	
2.5YR 3/1	2.5YR 6/4	5YR 5/6	2.5YR 6/6	2.5YR 5/6	2.5YR 6/8	2.5YR 6/8	2.5YR 5/6	2.5YR 5/6	3a	
red / very dark grey	light reddish brown	yellowish red/ dark grey /	light red	red	light red	light red	red	red / reddish brown / red	colour	
										POTTERY
										SECTION

	Comp.1	Comp.2	Comp.3
Count	0.989	0.150	-
Total Area	-	-0.415	-0.907
%Area	0.131	-0.898	0.421
Proportion of variance	0.9703205	0.02936201	0.0003174463

Table 2. Războieni – *Dealul Boghiu*. Loadings of variables on extracted component and proportion of variance explained by each component.

	Count	Total Area	%Area
Min.	5.250	0.1379	0.4069
1st Qu.	5.812	0.1525	0.4585
Median	6.125	0.2009	0.5469
Mean	5.958	0.2200	0.5513
3rd Qu.:	6.250	0.2643	0.6396
Max.	6.250	0.3587	0.7078

Table 3. Războieni – *Dealul Boghiu.* Summary statistics for ceramic type 1a.

	Count	Total Area	%Area
Min.	4.750	0.1268	0.2933
1st Qu.	4.812	0.1524	0.3428
Median	4.875	0.1781	0.3924
Mean	4.875	0.1781	0.3924
3rd Qu.:	4.938	0.2037	0.4420
Max.	5.000	0.2294	0.4916

Table 4. Războieni – *Dealul Boghiu*. Summary statistics for ceramic type 1b.

	Count	Total Area	%Area
Min.	2.500	0.05860	0.2084
1st Qu.	2.875	0.07220	0.2893
Median	3.250	0.08580	0.3703
Mean	3.167	0.08028	0.3429
3rd Qu.:	3.500	0.09112	0.4101
Max.	3.750	0.09645	0.4500

Table 5. Războieni – *Dealul Boghiu*. Summary statistics for ceramic type 1c.

	Count	Total Area	%Area
Min.	3.500	0.1655	0.6354
1st Qu.	4.250	0.2063	0.6973
Median	4.500	0.2624	0.7673
Mean	4.417	0.2452	0.7660
3rd Qu.:	4.750	0.2801	0.8406
Max.	5.000	0.3075	0.8868

Table 6. Războieni – *Dealul Boghiu*. Summary statistics for ceramic type 2a.

	Count	Total Area	%Area
Min.	5.750	0.3790	1.032
1st Qu.	5.875	0.3904	1.087
Median	6.000	0.4019	1.143
Mean	6.000	0.4019	1.143
3rd Qu.:	6.125	0.4133	1.198
Max.	6.250	0.4248	1.253

Table 7. Războieni – *Dealul Boghiu.* Summary statistics for ceramic type 2b.

	Count	Total Area	%Area
Min.	8.000	0.1958	0.5414
1st Qu.	8.000	0.2340	0.5480
Median	8.000	0.2722	0.5545
Mean	8.083	0.2497	0.5657
3rd Qu.:	8.125	0.2766	0.5778
Max.	8.250	0.2810	0.6011

Table 8. Războieni – *Dealul Boghiu*. Summary statistics for ceramic type 3a.

	Count	Total Area	%Area
Min.	9.500	0.3397	0.6705
1st Qu.	9.812	0.3603	0.7111
Median	10.125	0.3809	0.7518
Mean	10.125	0.3809	0.7518
3rd Qu.:	10.438	0.4015	0.7924
Max.	10.750	0.4221	0.8331

Table 9. Războieni – *Dealul Boghiu.* Summary statistics for ceramic type 3b.

	Count	Total Area	%Area
Min.	9.00	0.7078	1.766
1st Qu.	10.12	0.9674	2.186
Median	11.25	1.2270	2.606
Mean	11.25	1.2270	2.606
3rd Qu.:	12.38	1.4866	3.026
Max.	13.50	1.7462	3.446

Table 10. Războieni – *Dealul Boghiu*. Summary statistics for ceramic type 4.

THE EXPERIMENTAL BUILDING, BURNING AND EXCAVATION OF A TWO-STOREY TRYPILLIA HOUSE

Stuart JOHNSTON[1], Aleksandr DIACHENKO[2], Bisserka GAYDARSKA[3], Marco NEBBIA[4], Patricia VOKE[5], Kseniya BONDAR[6], Vladyslav LITKEVYCH[7] and John CHAPMAN[8]

Abstract: One of the research goals of the AHRC-funded "Early urbanism in Europe?: the case of the Trypillia mega-sites, Ukraine" Project was the better understanding the taphonomy of Trypillia house-burning in general and at the Trypillia BII mega-site of Nebelivka. For that reason, the Project decided to build two smaller-than-life-size Trypillia experimental houses – one single-storey and one two-storey – burn them down and excavate the burnt remains in order to make a comparison of different house forms. In the first part of this article, we explain the construction methods of the two 4 x 3m houses and the resources utilized to build them. In the second part, we provide an account of the burning of the two-storey house and explain the principal results of the experiment. We summarise the ways in which house floors and walls collapsed, as a way of linking our observations of the house-burning process to our subsequent excavation. In the third and most detailed part, we present a report on the excavation of the burnt remains of the two-storey house. We conclude by defining the specific contribution of the Nebelivka experiment not only to the history of Trypillia house-burning but the wider debate of deliberate house-burning.
Keywords: *Cucuteni-Trypillia; Chalcolithic, Romania, Ukraine, experimental archaeology, house-building, house-burning, burnt house excavation*

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INTRODUCTION

One of the research goals of the AHRC-funded "Early urbanism in Europe?: the case of the Trypillia mega-sites, Ukraine" Project[9] was an improved understanding of the taphonomy of the Trypillia burnt houses and, in particular, those excavated at the Trypillia BII mega-site of Nebelivka. The excavations at Nebelivka (2009, 2012 – 4) included several different kinds of features but by far the largest excavated sample comprised houses, whether complete (House A9 – 2009; House B17 – 2013), parts (House B18 – 2013) or test-pits in over 80 (mostly burnt) houses whose locations were defined through geophysical prospection[10].

As Magda Lazarovici – to whom we dedicate this report – can amply attest in her long and successful career, Cucuteni as much as Trypillia archaeology can be defined as the excavation of burnt houses. But the Project has been unable to find a thorough, detailed account of the taphonomy of a burnt house in what has become a rather traditional field of recording of excavated features and finds and their interpretation as a *reflection* of a living house assemblage that has collapsed in a narrow range of ways[11]. Excavators of burnt Cucuteni - Trypillia houses have accumulated vast databases of specific forms of remains, especially the mass of burnt clay known in Russian as the '*ploshchadka*' and various burnt clay features thought to be walls, podia, altars (or 'platforms') etc. But few of these excavated features have been interpreted systematically[12] and only one excavation of an experimental burnt house has been made[13] in order to make direct comparisons with the excavated remains of 6,000-year-old houses. It was for this reason that the Project decided to build two smaller-than-life-size Trypillia experimental houses – one single-storey and one two-storey – burn them down and excavate the burnt remains in order to make a comparison of different house remains. This detailed report on the excavation of an experimental house burning is the first of its kind.

In the first part of this article, we summarise the construction methods of the two 4 x 3 m houses and the resources utilized to build them. In the second part, we summarise the burning of the two-storey house and explain the principal results of the experiment. In the third part, we present a detailed report of the excavation of the burnt remains of the two-storey house. We conclude by defining the specific contribution of the Nebelivka experiment not only to the history of Trypillia house-burning but the wider debate of deliberate house-burning.

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[9] For a Project summary, see CHAPMAN & GAYDARSKA 2015.

[10] HALE *et al.* 2017; HALE, in press.

[11] MONAH & MONAH 1997; KORVIN-PIOTROVSKIY *et al.* 2012; MÜLLER &VIDEIKO 2016.

[12] NB KRUTS 1989; CHERNOVOL 2012.

[13] CHABANIUK 2008; this article does not, however, constitute an excavation report but a summary of findings.

There were four major issues to which the Nebelivka house-burning experiment could make a useful contribution: (a) whether the burning of experimental one- and two-storey houses left traces that would be recognisable in excavations of Cucuteni - Trypillia *ploshchadki*; (b) the interpretation of features, fittings and objects in burnt houses; (c) the nature and quantity of fuel needed for a successful house-burning; and (d) whether house-burning was a deliberate social practice. There was also a general scepticism amongst the majority of Ukrainian archaeologists present at the house-burning as to whether we could contrive the burning of the house at all. Since the timescale of the excavation of the modern burnt house was greatly truncated in comparison to the millennial scale of prehistoric houses, we cannot contribute to debates over the effects of soil formation processes, the results of *krotovina* action[14] or indeed the preservation of different constructional materials such as ash, charred material or weakly burnt daub that would eventually have reverted to clay or soil.

The house-building[15]

In keeping with current theories of Trypillia house construction, the two 4 x 3 m houses were constructed using a series of sleeper beams resting on levelled ground[16]. All framing timbers were held in place by their own weight unless under tension or warping caused poor fitting of the joint. Three simple types of joint in various combinations were used in the construction of the timber framing. Although both species were available in the forest steppe, pine rather than oak was used. The use of modern power tools and mixing methods for the daub was not out of character with Trypillian skills. Estimated construction time for the one-storey house (Fig. 1a) was 139 person-days, for the two-storey house (Fig. 1b) 160 person-days - times which fell within the goal of three weeks. The use of modern tools reduced the construction time by a large margin. Scaling-up these estimates for a module of 100 houses of mean 15 m length x 5 m width required the careful and co-ordinated management of skills and labour as well as the landscape and its produce. This would extend to the planning of forest management, with coppicing of hazel trees beginning several years in advance to produce withies of suitable size before harvesting for construction and the selection of structural timber from a large area. The process of constructing a mega-site would have had organisational and administrative effects beyond the comparatively modest efforts necessary to construct a single dwelling or village to a level approaching a specialised industry. Moreover, the production of an individual house can be viewed as a symbolic fusion of all the different

[14] *Krotovina* are the traces of underground movements by rodents whose effects on stratigraphy can be severe.

[15] JOHNSTON 2015; JOHNSTON *et al*., in press.

[16] KRUTS 1989; CHERNOVOL 2012.

elements that made up the Trypillia landscape – clay, straw, wood, reeds and water. The coordinated construction of a mega-site can similarly be viewed as an expression of cohesion, co-operation, obligation and inter-relationship within and outside a larger community than an immediate kinship group.

THE HOUSE-BURNING[17]

After a mild winter in 2014-5, the two-storey house was selected for burning in May 2015, on a mild day with a light breeze. The basic conclusion reached by some earlier researchers[18] was that additional fuel had to be added to a house for the burnt house to reach the temperatures shown by the resultant daub. For that reason, and because several former Trypillia house-burning experiments had failed to achieve complete combustion, 30 m^3 of firewood (viz., 420 trees 0.15 m in diameter and 4 m in length) was purchased several days before the burning. Almost all the timber was comfortably fitted into the two-storey house in 7 ½ person-hours' work. It is interesting to note that almost 10 times the amount of wood was needed to burn a two-storey house, as was used to build it, although there is a qualitative difference between timber for fuel and timber for construction. This conclusion has important implications for the question of deliberate house-burning.

The house was ignited at 12.50 pm and continued to burn until mid-afternoon of the following day. A total of 31 stages was recorded for the conflagration[19] (Figs. 2, 8a, 14a), focusing primarily on the main stages in the collapse of the house. Within 40 minutes, the roof thatch had burned and the structure had collapsed. After 1 hour and 15 minutes, the loft had burnt down. Five minutes later, the first section of one of the walls fell out, leaving a hole in the form of a 'door' while the North fronton fell inwards five minutes later still. Further sections of the South and West walls slid down between 1½ and 2 hours. The vast majority of the structural parts of the house had fallen within four hours of ignition, with only parts of the North and East walls remaining upstanding.

A plan of the remains of the burnt house was made within 24 hours of the end of the burning (Fig. 3b). This plan indicates that at least 11 of the house's 24 wall panels had fallen outwards as a result of the fire. It is unlikely that the 2.5 m-wide halo of burnt grass around the house would show up on geophysical plots. A large quantity of ash was produced by the fire but the vast majority of the ash pile had blown away within 30 hours of the initial ignition. A total of five structural timbers had survived the first 36 hours but relatively little charcoal was present, just as was found in excavations of Trypillia houses. The one-storey house that lay 2 m from the burnt house suffered no damage to its outside walls, which were warm to the touch but not hot. The oft-repeated idea of a neighbouring

[17] JOHNSTON *et al.*, in press.

[18] ZINKOVSKIY 1975; STEVANOVIĆ 1997.

[19] JOHNSTON *et al.*, in press, Table 6.

house catching fire very quickly has not been supported by this experiment, although the thatch would have been the first to catch fire.

Study of the photo-documentation of the house-burning process has enabled the determination of the order in which the house wall panels and frontons collapsed (Figs. 9b&16a).

THE EXCAVATION OF THE BURNT HOUSE (FIG. 3A)

The villagers had 'protected' the burnt house remains by covering them under 30cm of earth, creating a site defined by a low mound (Fig. 3a). Prior to excavation, the site was investigated with magnetometry and ground-penetrating radar, using the close fit of the new results with those of the Durham geophysical team for the mega-site as the basis for the study. The cesium magnetometer PKM-1M (Geologorazvedka, Russia) consists of one magnetometer probe with an automatic data log on a handled controller. The instrument was switched to 10 measurements per second, which gave a special resolution of about 10 cm on the line. In that mode, the magnetometer had a sensitivity of +/-0.01nT. A traverse interval was chosen with 0.5 m spacings. Distance triggering was made manually every line, using start and stop buttons on the controller. Changes in the daily variation of the geomagnetic field is reduced to the median value of the 20-meter sampling profile and alternatively to the median value of all data of 15x20 m grid. The procedure of profile median withdrawal from the measured values allows the exclusion of the normal field. The difference is then influenced by the target structures and pieces of magnetic discard. All measured points were organized in an irregular grid about 0.1 x 0.5 m and transformed (interpolated) to the regular grid 0.25x0.25 m. The magnetic intensity values are represented in grey and blue-red scales using Golden Software Surfer 12.

The GPR prospecting was carried out with a VIY-2-300 (Transient technologies LLC, Ukraine) instrument with 300 MHz antenna. Data were acquired in continuous mode along 1-m spaced survey lines, using 339 samples per trace, 80 ns time range and constant sampling interval of 32 mm along the inline direction. The data were subsequently processed using standard two-dimensional processing techniques by means of the Synchro3 software[20]. The processing flow-chart consists of the following steps: (I) zero level setting; to determine the correct depth, it is necessary to match the beginning of the depth scale with a certain point of the direct pulse (e.g. maximum amplitude); (II) wavelet filtering for effective suppression of low-frequency fluctuations and high-frequency noise; (III) the windowed background removal tool subtracts an averaged trace from each trace of the profile, with the width of the window for averaging specified by the total number of traces; (IV) manual gain, to adjust the acquisition gain function and enhance the visibility of deeper anomalies; (V) estimation of the average electromagnetic wave velocity by

[20] IVASHCHUK *et al.*, 2017.

hyperbola fitting; and (VI) migration, using diffraction summation method, for proper restoration of the location and shape of local objects on a profile.

The magnetometry showed two anomalies (Fig. 4a). The North-Western one is smaller and has a maximal intensity of 131 nT. It corresponds to a fallen house wall. The South-Eastern anomaly is larger and has a maximal intensity 280 nT. It corresponds to the main part of the burnt house. There are many anomalies from magnetic rubbish on the area. According to the GPR radarograms (Fig. 4b), features corresponding to the foundation and fallen walls of the experimental house are clearly visible on profiles measured along the horizontal scale of 5.5-8.5 m of the area at depths of approximately 0.6-0.8 m[21].

The excavation of the 4x3 m burnt house and surrounding burnt area subsequently took place in one week, with six colleagues from Durham and Kiev (the authors) and one skilled village excavator (Alina). The quadrant method was used to excavate 50% of the 'mound' (Quadrants 2 and 4). All phases of deposition were recorded by Dr. Marco Nebbia by photogrammetry, with traditional section-drawing and photogrammetry combined for both quadrants.

<u>House-construction:</u> Excavation reached the pre-building surface in Quad. 2 on Day 4. The first deposit resting on the ground surface was the stamped clay ground floor of the burnt house (Context 226: Fig. 6b). The first construction feature of the East Wall is the foundation trench Context 227 for the horizontal beam supporting the vertical posts; a void for the sleeper beam (Context 230) survives in the section (Fig. 5a).

<u>House-burning</u>: Two separate collapse sequences were observed in different parts of Quad. 2: the North wall and the East wall (Fig. 6b). The North wall collapse can be seen in a three-fold stratigraphic sequence. The lowest part of the wall was Context 229; the middle stage was Context 223, a strongly burnt part of a collapsed wall next to which lay one miniature vessel. The uppermost part of the wall, Contexts 201 and 218, contained a wattle-and-daub panel comparable to the impressed daub found in Nebelivka House A9 (cf. Fig. 7a&7b).

The ground floor (Contexts 225&226) was partly covered in spent fuel. In Context 225 were found two figurines and two miniature vessels (Fig. 8b). Above Context 226 was part of the main middle floor deposit Context 213, while impressed daub above 213 may have been part of the ceiling (Context 202) (Fig. 9a).

Above the fuel deposit were parts of two collapsed wall contexts and a fallen middle floor context. The East wall deposits comprised an upper panel of a wattle-and-daub wall Context 212 and the lower panel of a wattle-and-daub wall with both outer and inner clay

[21] However, experimental measurements on the actual Nebelivka megasite have shown that Tripillya houses are not visible in GPR radarograms. There could be two main reasons for this absence: 1) real Trypillia houses dated to almost 4000 BC had reached electro-physical «equilibrium» with the surrounding soil; and 2) the clay-rich chernozem consistently provided poor depth of GPR exploration and clarity of reflected signals (FREELAND *et al.*, 2003).

skins. The major context representing the collapse of the middle floor was Context 213. The upper part of the East Wall comprised two contexts, as well as a possible third (Context 222). Context 203 comprised parts of a poorly fired wattle-and-daub wall with surviving hazel rods, while Context 206 was an extension of Context 203, with similar hazel rods. Above Context 206 was a white powdery deposit (Context 205) – the first major deposit underlying the topsoil.

Relation of Quad. 2 to house-burning observations (Fig. 9b): These excavated areas revealed few signs of a ceiling collapse, as was more common in Quad. 4 (see below, p. xxx); one example in Context 202 suggests daub remains apparently without withy impressions may have fallen at an early stage of the fire from the ceiling. In addition, there were good examples of upper and lower wall panels collapsed from the North and the East Walls. These walls showed the survival of burnt hazel rods, which had presumably been protected from further combustion by their daub casing. The North Wall collapse illustrates a peculiar form of collapse – a 'fold' in which the wall breaks at the level of the first floor to produce a sandwich effect, with the upper panel Panel 2 lying on top of the lower panel, as shown in the house-burning process (Fig. 8a). The East Wall collapse (Fig. 6b) was more complicated owing to the delayed collapse of the upper panel 12 (Contexts 212&214) beneath the lower panel 13 (Contexts 203 and 206) – the first clear case of a stratigraphic reversal.

House-construction: Excavations reached the pre-building ground surface on Day 5. Most of the area outside the house was covered in a 1-mm-thick, friable charcoal, indicating the extent of the influence of the fire. The stamped clay ground floor Context 430 was laid out on the ground surface within walls that have survived as burnt lines on the South and West sides of the house (Fig. 11a). These walls mark the position of the sleeper beams. As in Quad. 2, a foundation trench for a sleeper beam was excavated (Context 432). The ground floor hearth Context 429 was built onto the floor and survived intact with its special finds (Figs. 11a&12b).

House-burning: A major ash deposit was found inside the house as Context 433 – probably the remains of the fuel we piled into the house. The ash was not only mixed in with 'middle floor' deposits (Context 427) but was also stratified beneath fragmented 'middle floor' daub. The finds from this area were associated with the daub remains rather than the ash deposits.

Context 427 (Fig. 15) was a key context in this excavation, since it contained jumbled fragments of the middle-floor hearth (implying they had fallen from the middle floor), many cream-coloured daub fragments from the middle floor itself but also perhaps from a fronton, as well as red wall daub with withy impressions. A linear daub spread without withy impressions may have been part of the middle floor or the ceiling that fell on its edge. Part of this complex, mixed context had fallen above the ground floor hearth Context 429. Above Context 427, Context 410 also comprised mixed deposits, containing ceiling (upper floor) debris and middle floor remains implied by the presence of a figurine.

Six of the wall panels fell outwards onto the burnt ground surface in Quad. 4. The two panels comprising the South wall fell outward (Fig. 12b), while two sets of panels in parallel fell from the West wall (Panels 21 and 22, as Contexts 402&403; Panels 23 and 24, as Contexts 407&408). Further traces of collapsed wall panels were found as red daub with withy impressions in Contexts 423 and 417, showing up as daub with multiple withy impressions. Two figurines lay near the remains of this daub.

The lower part of the West Wall (Context 403) had fallen on itself; part of this panel had a cream daub surface with painted decoration in a faded white strip (Fig. 13, with close similarities to Nebelivka Test Pit 25/4 Context 3: here Fig. 14b). At the base of panel Context 425 was the best example of a wall panel showing a void from the disappearance of a timber post (Fig. 13b). Above this collapsed wall was a spread of daub lumps (Context 402), some decorated with red or cream paint, that came from the decorated part of the West Wall.

The latest contexts, lying just beneath the topsoil, consisted of Context 401 – unburnt or weakly burnt daub lumps above the wall collapse (Context 402) – and Context 419 – charred timbers above daub fragments (Context 410).

Relation of Quad. 4 to house-burning observations (Fig. 16a): The latest deposits consisted of small lumps of red daub, probably the remains of an upper wall panel. Larger pieces of decorated daub (Fig. 13b: Con 403), represented the lower panel of a collapsed wall, with the red or cream paint on the outer surface. The orientation of the hazel rods and the timber impressions in this daub were very varied, with the dominant direction being ENE-WSW. Mixed in with the middle floor daub were wall pieces, as well as decorated fragments of the middle floor hearth, which had fallen in such a way that they formed a jumbled set of fragments up to 15 cm in length rather than an *in situ* hearth. Under the collapsed remains of the middle floor was an ash deposit which represented the hottest part of the fire, with the ash forming from the timber and the disintegration of the clay. *In situ* floor deposits were found under the ash deposit, which may include the remains of part of the fuel used for burning the house. After further excavation, the area of the house floor was more clearly defined within a series of house wall remains. The medium-sized daub pieces from the middle floor collapse were mostly at an angle rather than in horizontal position.

The only example of a stratigraphic 'sandwich fracture' (aka 'hinge fracture') occurring *within* a wall panel occurred in the West wall in Panel 22 (Context 403), with the upper part of the panel above the lower part (cf. Fig. 14a, house-burning process). Much later, the upper panel 21 (Context 402) fell on top of the lower panel. By contrast, panels 15 and 16 from the South wall (Context 420) had fallen straight from the house without any reversal.

The distribution of vitrified daub

The presence of vitrified daub (Fig. 16b) in the excavation of the burnt house is important for two reasons: (1) it indicates a high firing temperature of over 1000°C; and

(2) this is the first occurrence of vitrified daub in any Cucuteni - Trypillia house-burning experiment. On the first point, the Project's building analyst, Dr. Shevchenko, has determined the firing temperatures of daub samples from Context 112 in the Mega-structure (2012 excavations), with the start of vitrification identified on a sample with a firing temperature of over 1000°C[22]. The new firing temperature supercedes the estimate of 600-700°C found in the Thermo-Gravimetric Analysis of daub retrieved from the burnt house in 2015[23].

The distribution of the vitrified daub shows a clear pattern. First, no vitrification was observed in Quad. 2. All of the vitrification in Quad. 4 occurred in the collapsed remains of the middle floor (Fig. 15b), particularly in Contexts 417 and the linear daub spread Context 408. This suggests that vitrification of the middle floor was caused by two factors: the high temperature of the fire in the ground floor room, which arose from the high density of fuel; and the proximity of the open house door, which provided excellent draught for the fire.

Other burnt daub

Three other forms of daub were excavated in 2017: cream daub, red-pink daub and unburnt or weakly burnt daub. Since all of the daub was fired from a single clay source, the colour differences were most probably related to firing temperatures. Firing temperatures of daub samples from Context 112 in the Nebelivka mega-structure (2012 excavations) showed cream daub was fired at 800-850°C, with pink - red daub at over 900° C[24]. One sample with a firing temperature of 200-300°C was comparable to the weakly fired or unfired daub in the experimental burnt house excavations. The contexts of the other daubs showed a wider distribution than the vitrified samples, all occurring in both Quads. The highest daub temperatures in Quad 2 – the red-pink daubs – were estimated at over 900° C.

Daub impressions

Many excavators of Trypillia houses make much of the orientations of the impressions found on construction daub (e.g., Nebelivka House A9: Fig. 7b)[25]. We started with the advantage of knowing the original East-West orientation of the house timbers on the middle floor and the ceiling, as well as the horizontal weaving of hazel rods in the wall panels (Fig. 14a).

The combined distribution of (un)burnt hazel rods, burnt beams and daub impressions shows a clear pattern of hazel rods placed horizontally on each of the five excavated wall panels, with some of the daub impressions following the direction of the

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[22] SHEVCHENKO, in prep..

[23] JOHNSTON *et al.*, in press, Fig. 9.

[24] SHEVCHENKO, in prep..

[25] CHAPMAN & VIDEIKO 2011.

hazel rods in both Quads. However, inside the house, the great variety of daub impressions from the fallen middle floor in Quad 4 show limited regularity, with more East-West orientations than deviations from the East-West direction of the floor beams. This finding does bring into question the real directionality of daub impressions, while confirming that daub has indeed fallen from the middle floor or ceiling.

Special Finds

The team 'deposited' 35 Special Finds in the house before burning, mostly near the built-in features. Except for four pig bones, the objects were made of clay acquired in North East England and were fired at c. 1000° C in a Durham University kiln to produce a pink-red surface colour. Objects were placed on all floors of the house (Fig. 18a), as follows: Ground Floor – 14 objects (five vessels, eight figurines and a pig bone); Middle Floor – 10 objects (two vessels, seven figurines and a pig bone); and Upper Floor – 10 objects (two vessels, seven figurines and one pig bone). A total of 16 objects was found during excavation – six in Quad. 2 and 10 in Quad. 4. No pig bones had survived. All fired clay objects were found inside the area of the burnt house, with not a single artifact falling out of the house along with the wall panels (Fig. 18a). The excavation spot of all objects was horizontally within one metre of their deposition place.

We had previously raised the question of whether the objects placed in the house would have suffered from secondary burning[26]. Four objects – three miniature vessels and one figurine – showed no traces of secondary burning, while the majority – seven objects (two miniature vessels and five figurines) – showed possible traces of burning from their grey colour. The shape of a single miniature vessel had been distorted by the high temperature. Only three figurines showed clear signs of secondary burning, despite the fact that two of them had been found in an ashy level (Con. 225: see Fig. 9a). The hypothesis that a cover of ash would have protected objects from secondary burning[27] was therefore not supported. All of the objects had been preserved as more or less complete (including damage to the rim), except for one miniature vessel whose fall from the middle or upper floor had broken it into over a dozen sherds. The 2002 Vădastra Experiment showed that the main reason for the rarity of fragmentation was the small size and low weight of objects such as figurines and pintaderas[28].

Replication of excavated Trypillia house features in the experimental burning

The first aim of the excavation of the burnt experimental house was to identify features previously found in excavations of genuine Cucuteni - Trypillia houses. The main method for this research was comparison of photo-documentation from the experimental

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[26] JOHNSTON *et al.*, in press.

[27] KOLESNIKOV 1993.

[28] CHAPMAN *et al.*, N. D.

house with Project excavations at Nebelivka. The results showed that daub impressed with withies and wall panels.

Discussion

The Project began with a suggestion that the experimental programme could contribute to four questions germane to Trypillia house-burning: (a) whether the burning of experimental one- and two-storey houses left traces that would be recognisable in excavations of Trypillia *ploshchadki*; (b) whether the experiment could contribute to the interpretation of features, fittings and objects in burnt houses; (c) the nature and quantity of fuel needed for a successful house-burning; and (d) whether house-burning was a deliberate social practice.

For the first two questions, the excavation of the burnt experimental house showed that the burnt floor, with some of the added fuel often surviving, was defined by burnt floor beams in foundation trenches and retained the clay hearth with its five special finds. We were able to define the sequence of collapse of wall panels, which often included hazel rods, and floor segments (with beams rather than rods). The built hearth on the middle floor fell in pieces, suggesting that Trypillia houses with intact features were probably one-storey houses[29]. The orientation of the many timber and withy impressions on fallen daub fragments showed two patterns: a consistent line of fall (mainly in Quadrant 2) or a more chaotic set of multiple orientations (mostly in Quadrant 4, with East-West orientations more frequent than deviations). The general principle is that daub blocks with large, semi-circular or squared-off impressions represent floor debris, while daub pieces with smaller, often parallel withy impressions indicate wall collapse.

Many of the excavation features found in our Test Pits were replicated in the burnt house, giving an improved understanding of the taphonomy of house burning. These features include daub impressed with both withies and floor timbers and mixed deposits comprising both middle floor and wall deposits (such as Context 427). An important result was that the middle floor and ceiling deposits fell within the area of the burnt house as daub visually identical to Trypillia daub; by contrast, most but not all of the excavated wattle-and-daub wall panels fell outwards. The exceptions were Contexts 417 and 423, which may have fallen as another wall panel or one of the frontons. One reason for this was the filling of the house with combustible fuel. If fuel had been stacked outside the walls of a house-to-be-burned, there would have been a much higher probability of the collapse of the walls inside the area of the house. But if the Trypillia custom included stacking fuel inside the house-to-be-burned, it may be that most walls did indeed fall outwards, beyond the area of the house floor and a tight focus of excavations on the *ploshchadka* itself may have led

[29] The collapse of the first floor is a complex issue, with the need to discuss more factors than we have space to include here.

to missing the outer wall deposits. Moreover, a weakly burnt wall panel falling outwards may not have survived many millennia anyway. Further research is required on the location of burning on the inside or outside of Trypillia wall panels[30].

The low densities of ash in many *ploshchadka* excavations perhaps reflect the dispersal of this friable material over millennia. Although the majority of ash produced in the experimental house-burning was blown away overnight after the burning, the excavation of the experimental house produced several ash-rich contexts, indicating at least the possibility of preservation in contexts shielded from erosion.

The distribution of all artifactual finds within the area of the house floor shows that this was likely to have been the typical pattern for Trypillia house-burning. Nonetheless, this observation does not prove that the objects found in a Trypillia *ploschchadka* derived from a *de facto* or living assemblage – merely that the pattern of wall collapse tended to concentrate objects within the area of the ground plan, no matter how they 'reached' the house-to-be-burnt.

The collapse of walls creating an overlay of wall panels provides a potential criterion for the existence of two-storey houses. However, the collapse of one-storey houses can create the same effect: where the upper panel falls on the lower panel, where two adjacent panels fall on top of each other or the fronton falls on the wall panel. A second, more reliable criterion is the discovery of scattered platform daub, which implies that the daub has broken and become dispersed as a result of a fall – presumably from the middle floor of the house.

One aspect of our Trypillia burnt house research has concerned the creation of stylised sequences of house-collapse (Fig. 19: one-storey house collapse; Fig. 20: two-storey house collapse). Many of the features found in our excavations of the burnt house can be found in these collapse sequences, which we believe have more general relevance in the house-burning debate. Two general points can be made about house collapses. First, the results of house-burning is often chaotic, with mixed contexts representing the collapse of different parts of the house (Scenarios 1, 4-7). This means that a 'reflectionist' interpretation of house collapse may well be incorrect. Secondly, Scenario 8 is the preferred model for our Ukrainian colleagues, incorporating the horizontal falling of the middle floor as an intact clay mass with features such as platforms or podia surviving in good condition. Our experiment has shown no convincing evidence for this scenario but it cannot be ruled out.

For the third question concerning fuel and temperatures, the large quantity of fuel placed in the house before firing was probably instrumental in achieving a complete

[30] The identification of inner (heavily burnt) and outer (partly unburnt) facets of wall panels could be used as a proxy of where the fuel was placed, although varieties in the temper in the wall clay may have also produced such differences in firing. It is also problematic to identify the side of a panel in Trypillia excavations.

combustion of the two-storey structure[31]. We cannot, however, be certain whether complete combustion could have been achieved without the filling of the upper room with much fuel[32]. The large quantity of vitrified daub inside the walls of the house shows that temperatures of over 1000° C were reached in the centre of the fire, for the first time in the history of Cucuteni - Trypillia house-burning experiments. It seems unlikely to us that vitrification would have been achieved without the provision in a large quantity of fuel.

There has been some discussion over alternatives to timber as a fuel for burning Cucuteni - Trypillia houses. The main candidates were animal dung, formed into briquettes, large quantities of reeds and the use of coniferous tree resin as an accelerant[33]. The firing characteristics of each of these materials leaves something to be desired in a high-temperature combustion. While dung briquettes maintained their temperatures better than timber, the problem would have been to reach sufficiently high temperatures to ignite the house daub. The relatively quick rate at which reeds would have burnt out, even though capable of producing high temperatures, implies constant replenishment of the fuel. A practical issue concerns how to insert either reeds or dung into the centre of an already-burning house. But the primary objection to both dung and reeds is logistical – the massive effort required to make enough briquettes and reed bundles and transport the fuel to the house-burning site to ensure the maintenance of a consistent high temperature. It is suggested that the logistical effort of burning a house with dung and/or reeds would have been as high as with firewood.

By the same token, unburnt or weakly burnt houses, forming one-third of the total houses at Nebelivka, may have been a result of insufficient timber or other variants on the poor or rushed planning of a house-burning. This still implies a deliberate decision to burn the house down, even if this may not have been fully successful.

The estimates made for the fuel requirements for a successful, deliberate house-burning show that the quantity of fuel for house-burning far exceeded the quantity of timber for house-construction. Scaling-up of timber requirements to the standard Nebelivka 'Module' of 100 houses 15 m x 5 m in size would have meant the felling of over 13,000 trees for one-storey buildings and almost 25,000 trees for two-storey buildings, c. 20,000 trees for a mixture of one- and two-storey houses. Extending the fuel requirements to the burning of such a mix of 100 houses implies c. two million trees or deciduous forest cover of 10 km^2. Even the coeval burning of 10 houses would have required the transport of over 170 m^3 of clay, over 150 m^3 of reeds and the collection of timber resources from an area of forest covering 1 km^2. This is the first of the two most important conclusions of the Nebelivka experimental programme – the severe logistical implications of burning one

[31] Cf. the 3 m^3 of fuel used to fill the inside of the Legedzine experimental burnt house (CHABANIUK 2008).

[32] Cf. KRUTS 2003.

[33] Personal communication, D. Chernovol.

house, let alone ten or a hundred. Prehistorians have barely begun to explore the social implications of this logistical requirement.

We imagine that we have already supplied an affirmative answer to the fourth question of the deliberate burning of Neolithic houses. There are at least five problems with accidental house combustion or even burning as a result of a military attack: (1) the floor and wall daub coverings are poor conductors of heat, which would have protected the unexposed structural timbers from fire-damage; (2) in the case of the log-cabin model, there is insufficient clay and insufficiently high temperatures from burning the timber to produce a genuine *ploshchadka*; (3) as this experiment has showed, the poor heat conduction of the wall daub would have prevented a fire from spreading to nearby timber-framed houses; (4) moreover, only the roof of a neighbouring house would have burned but not the rest without additional fuel to maintain the fire; and (5) even if the houses were tightly packed (which is not supported by the Nebelivka geophysical plot but found in one sector at Maidanetske[34]), the outward collapse of walls onto neighbouring houses would not have sustained a damaging fire without additional fuel; while the walls may have baked, they would not have collapsed.

All of these reasons make it highly improbable that a complete combustion of a timber-framed, wattle-and-daub house leading to the creation of both a *ploshchadka* and vitrified daub would have been possible through an accidental fire or even a military attack. This is the second of the two most important conclusions of the Nebelivka experimental programme.

In a complementary experiment performed in Durham[35], we explored the question of what caused the cracked surfaces on fired clay platforms. Although the final burning of a house could have caused the cracking, the experiment proved that the same effect could have been produced by an initial 'construction' fire set alight before the house walls were built. In terms of the house biography, while it is clear that the 'death' of a house was caused by burning, the 'birth' of a house could also have been related to fire if the cracked surfaces of a platform were caused by construction burning.

CONCLUSIONS

As far as we are aware, our excavation of the burnt experimental house is only the second such excavation in the history of Cucuteni - Trypillia house-burning experiments. This excavations allows us to clarify inferences drawn from the time after the end of the house-burning event, as well as to produce new conclusions which we could not make at the time of the house-burning. The experimental building, burning and excavation of a 4 x 3 m two-storey house constructed in Trypillia style at Nebelivka has made four important contributions to the debate over deliberate or accidental house-burning.

[34] MÜLLER & VIDEIKO 2016.

[35] JOHNSTON, ADS YORK URL to come.

First, it is clear that the burning of an experimental two-storey house did indeed leave traces, even after a brief period of only two years. The Nebelivka experiment demonstrated that it was possible to produce the remains of a daub mass bearing a close resemblance to a Cucuteni - Trypillia *ploshchadka*. The experiment also managed to fire some of the construction daub at such high temperatures as to produce vitrification. Our suggestion is that one of the key factors in these results was the large quantity of pinewood fuel stacked inside the house before firing.

Secondly, the manner in which higher-floor elements had fallen indicates that features that survived well, such as platforms, hearths and podia, were generally built on the ground floor, not on the middle floor, although its sliding down as a compact unit cannot be dismissed. However, the converse of this point is that burnt houses with scattered platform daub may well have been two-storey buildings! The good survival of wall panels also indicates that the surviving daub in Trypillia houses derived from the walls as well as the floors. There were distinctive 'sandwich' effects which showed the highly probable presence of two-storey structures in Trypillia mega-sites.

Thirdly, the result that perhaps as much as ten times the quantity of timber needed for house-building was required for successful house-burning sets the event of deliberate house-burning into the unexpected ecological context of a much greater impact on the local environment than had been expected. Conversely, the absence of major human impacts on the local forest-steppe implies slow rates of house-burning on Trypillia megasites as Nebelivka.

Fourthly, the large quantity of fuel added to the experimental house to ensure a successful conflagration refutes the hypothesis of accidental burning of Neolithic houses in the vast majority of cases. This means that we cannot, in reflectionist manner, take the incidence of house-burning as a measure of household carelessness, the intensity of pest elimination or inter-community violence but, rather, seek internal causes for the deliberate choice of burning down a house at the end of its use-life - **or not**. As with all significant acts, house-burning is chosen for a complex and inter-related web of social and ecological reasons, whose explication is a primary aim of prehistory. We hope that the Nebelivka experimental programme has taken us further down the road of explication.

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a

b

Fig. 1. (a) The experimental Nebelivka houses on Day 12, showing withy panels and wooden floors; (b) the completed experimental houses, Nebelivka (source: S. Johnston).

a

b

Fig. 2. (a) Burning the experimental house: after 40 mins;
(b) 3-D recording of the experimental house at end of house-burning (source: M. Nebbia).

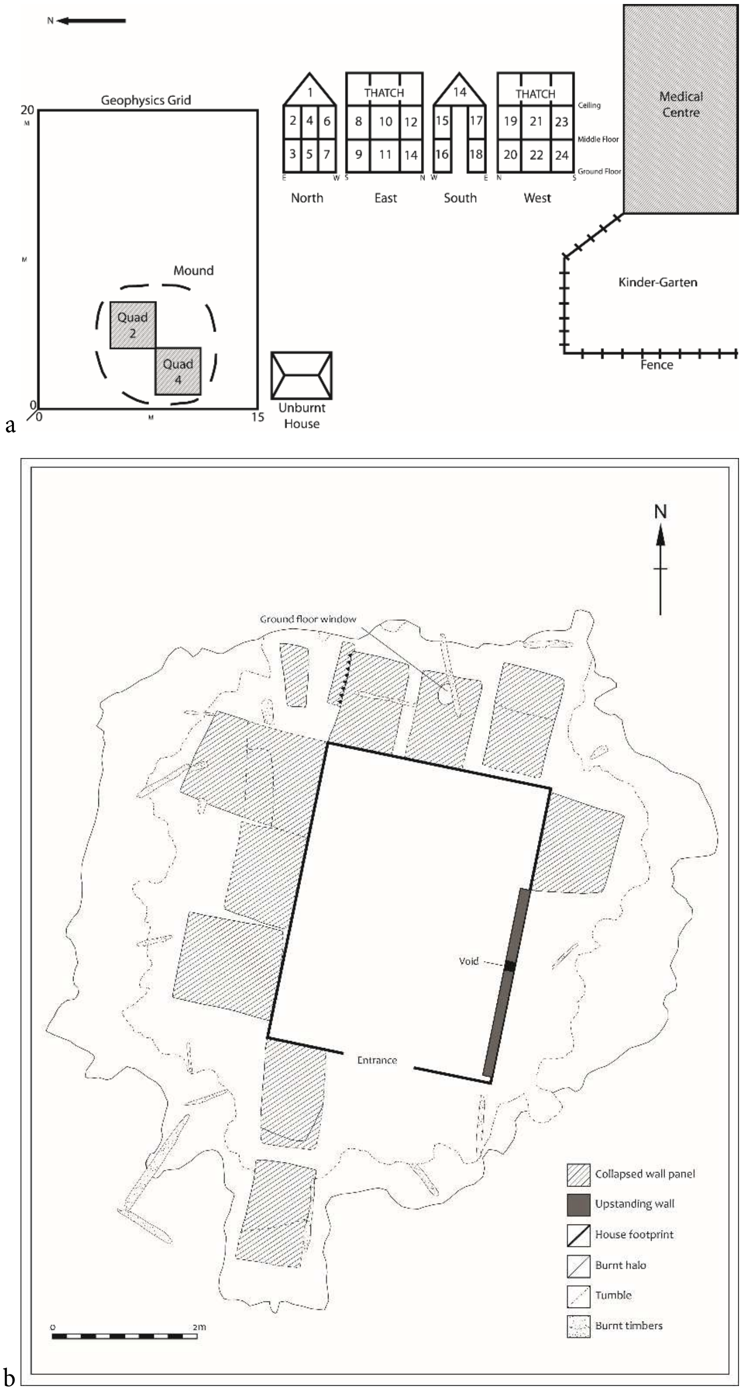


Fig. 3. (a) Location of burnt house 'mound', trenches and geophysical grid in the centre of Nebelivka village (source: JCC, drawn by L. Woodard); (b) plan of panel collapses, house-burning (source: P. Voke).

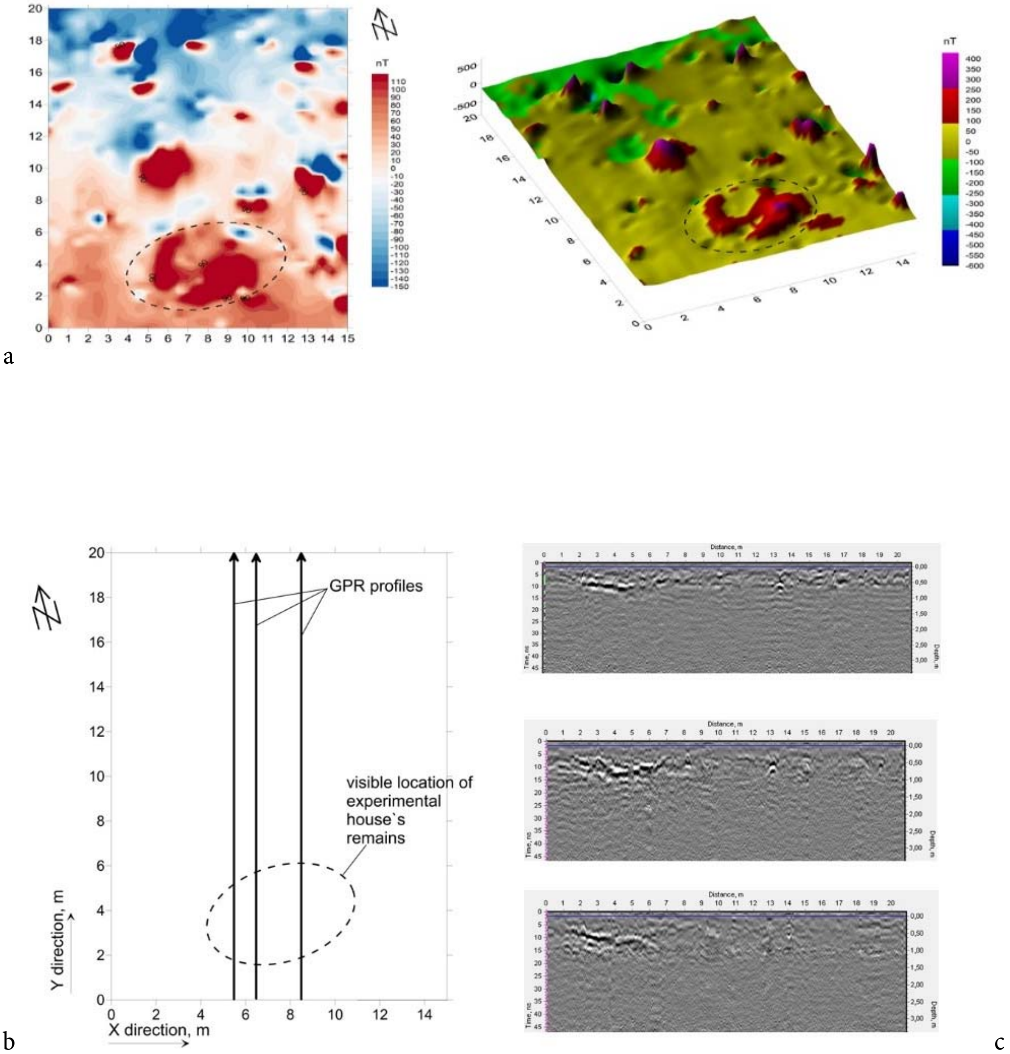


Fig. 4. (a)-(b) Magnetic anomalies;
(c) ground penetrating radar (source: Ks. Bondar).

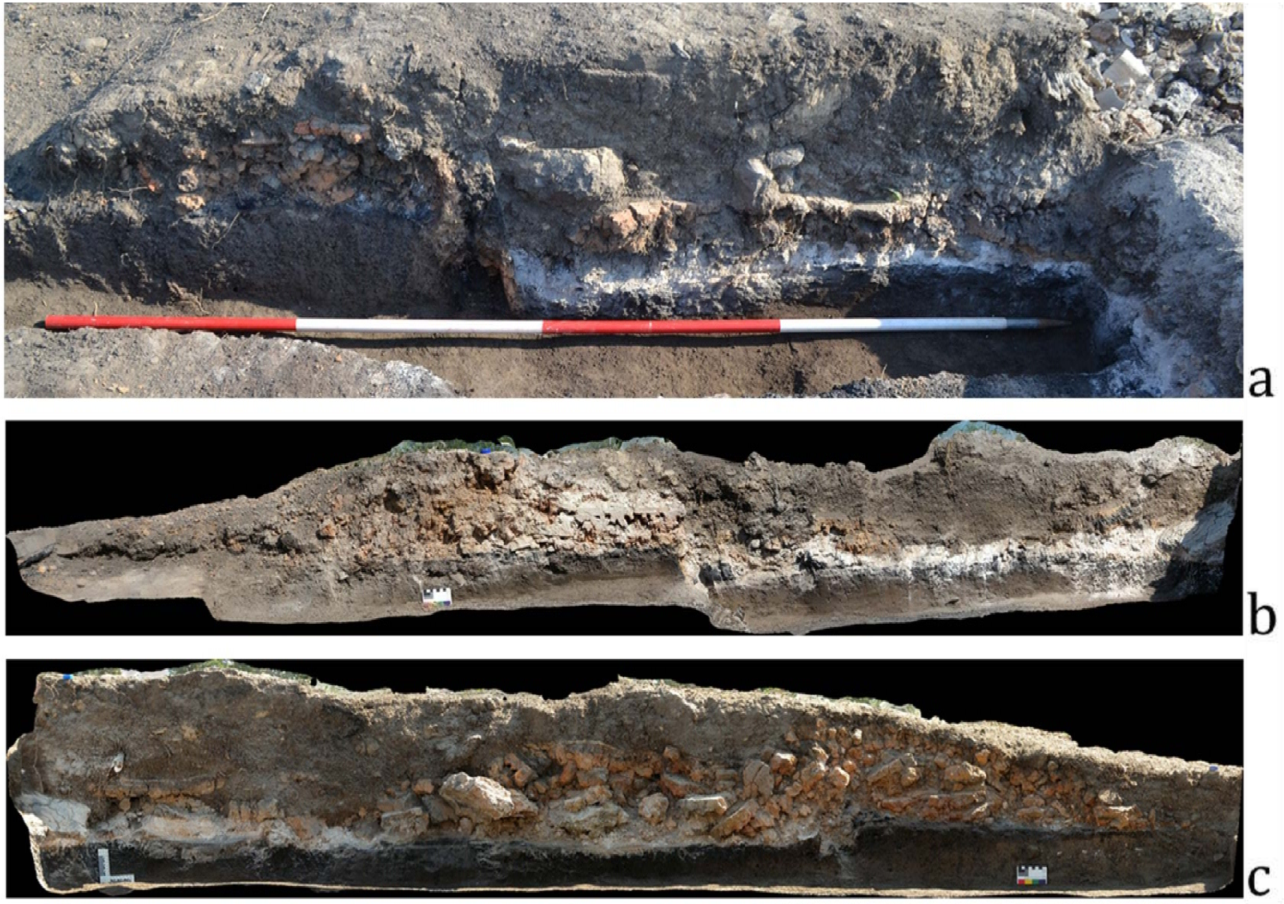
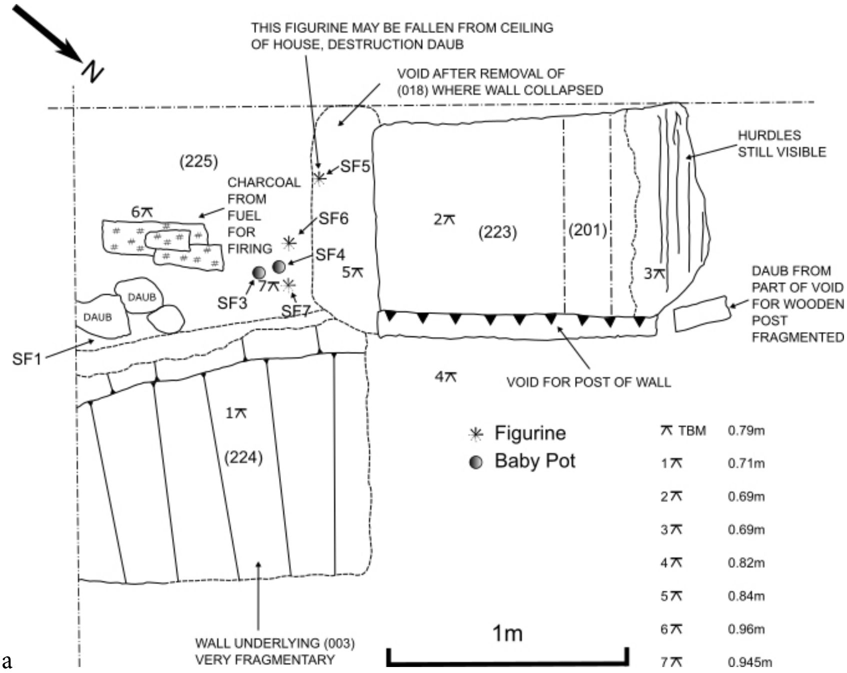


Fig. 5. (a) Section, Quad. 2; (b) South profile, Quad 4; (c) West profile, Quad 4 (source: MN).



a

b

Fig. 6. (a) Plan of Quad 2 after removal of Context 201, 203 & 218 (9/VIII/2017) (source: S. Johnston); (b) collapsed East Wall (Contexts 203 & 214) from South (source: J. Chapman).

a

b

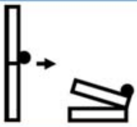
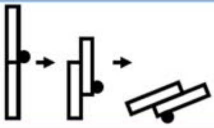
Fig. 7. (a) North Wall (Context 201) (source: J. Chapman);
(b) impressed daub, House A9, Nebelivka (source: M. Videiko).

a

b

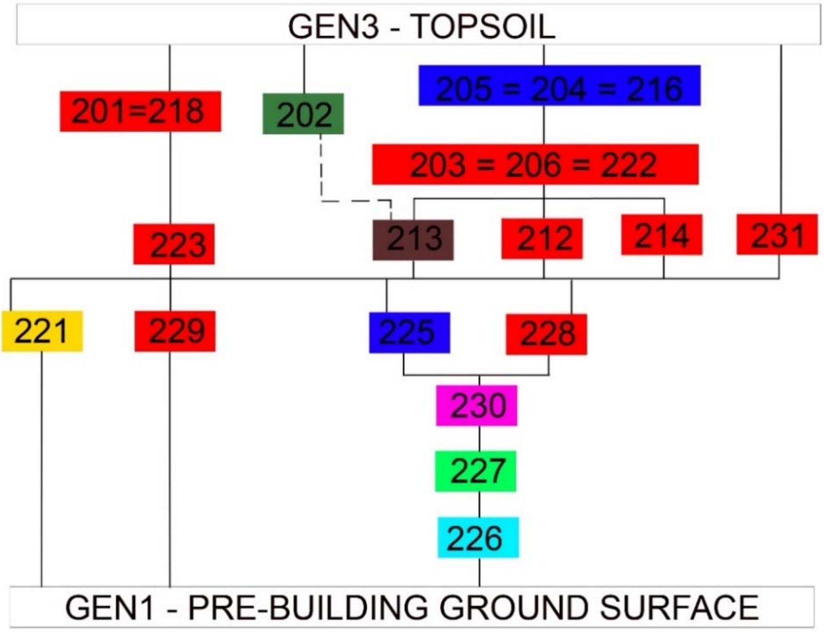
Fig. 8. (a) Collapse of North Wall after 3 1/2 hours, house-burning (source: S. Johnston); (b) context 225 with figurines and pottery (source: J. Chapman).

a

Panel no./ Wall	Manner of falling	Excavated	Suggested Excavation Context	Sketch
2/North	Sandwich	YES	201, 218	
3/North	Sandwich	YES	229	
8/East	Fell inwards	NO		
10/East	Fell inwards	NO		
11/East	Standing until DAY 2; then fell in/ outwards	NO	228	
12/East	Fell outwards and slipped down above Panel 13 (decoration under); remained vertical till late p.m.; started to break in two on DAY 2	YES	212, 214	

b

Fig. 9. (a) Annotated floor sequence: 1 – ground floor; 2 – middle floor; 3 – ? ceiling; (b) correlation of house-burning events with Quad 2 contexts (source: B. Gaydarska).



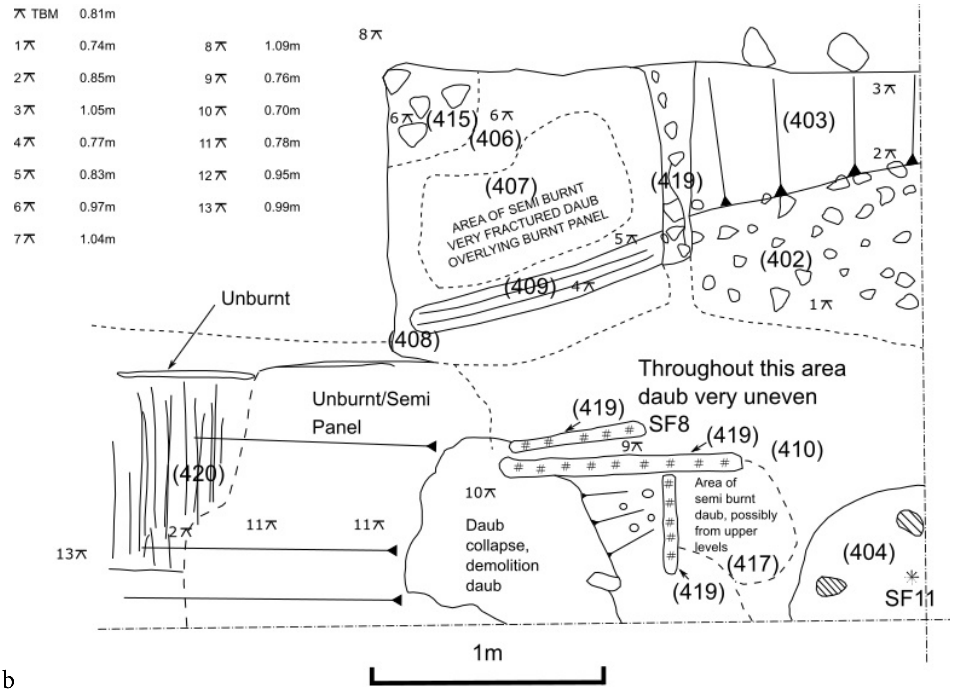
a

CONTEXT NO.	CONTEXT DESCRIPTION
201	poorly-built North wall, fallen outwards
202	daub lump with impressions, possibly fragments of Ceiling
203	poorly-fired East wall with hazel rods
204	white powdery spread above 206
205	white powdery spread near centroid
206	extension of 203, with burnt hazel rods (i.e., part of East wall)
212	panel of wattle-and-daub wall beneath 206
213	Middle Floor section
214	lower part of North wall beneath 206 and 213
216	white powdery spread = extension of 204, above 206
218	Southern extension of 201 - area of small friable daub lumps
221	two sides of void of wall timber
222	destruction daub, probably from wall (modern glass found in tumble)
223	layer of North wall beneath 201 (more burnt than 201)
225	ash-rich fuel deposit inside wall 223
226	burnt floor of house (= GEN2)
227	foundation trench, East side of floor
228	lowest surviving part of East wall
229	lowest surviving part of North wall
230	sleeper beam, East side of house
231	wall panel that fell onto ashy level 225, below GEN3
GEN1	pre-building ground surface
GEN2	house floor (here = 226)
GEN3	topsoil

b

Fig. 10. (a) Harris matrix, Quad 2 (source: B. Gaydarska);
(b) context list, Quad 2 (source: J. Chapman).

a



b

Fig. 11. (a) Ground floor (Context 430) (source: J. Chapman);
(b) plan of Quad 4 (source: S. Johnston).

a

b

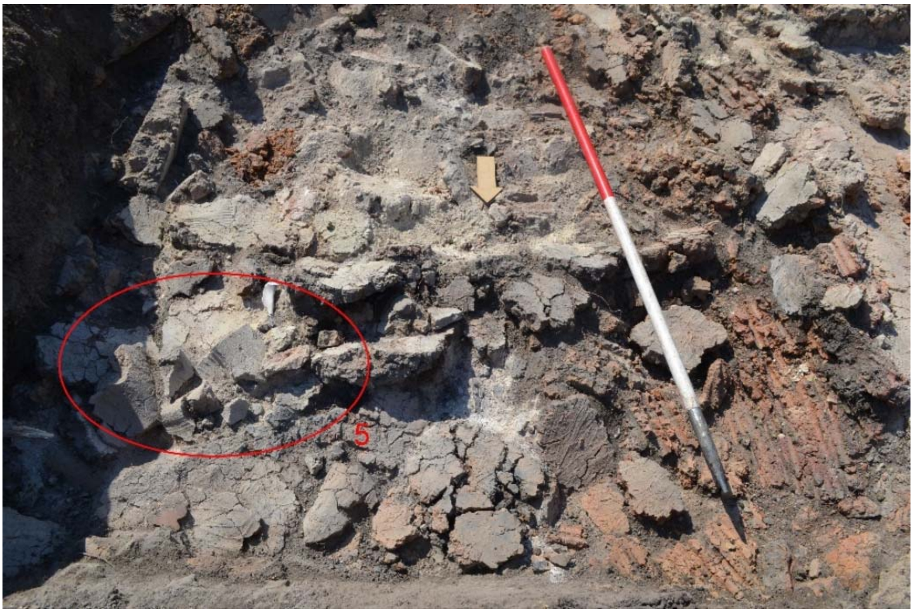
Fig. 12. (a) Detail of hearth Context 429, with figurines and pot;
(b) South Wall (Context 420) (source: J. Chapman).

Fig. 13. (a) West Wall (Context 403) (b) mini-section, Context 403 (source: J. Chapman).

a

b

Fig. 14. (a) Collapse of West Wall after 1 1/2 hours, house-burning (source: S. Johnston); (b) house wall, Nebelivka Test Pit 25/4 Context 3 (source: B. Gaydarska).

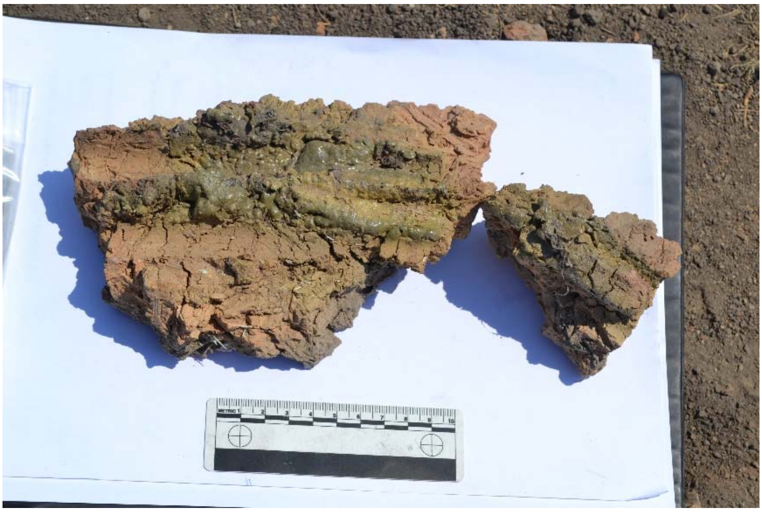
a


b

Fig. 15. Annotated photographs of Context 427: (a) before daub-turning; (b) after daub-turning: 1&2 – Middle Floor; 3 & 4 – part of long wall timber; 5 – hearth fallen from Middle Floor; V – vitrified daub (source: B. Gaydarska).

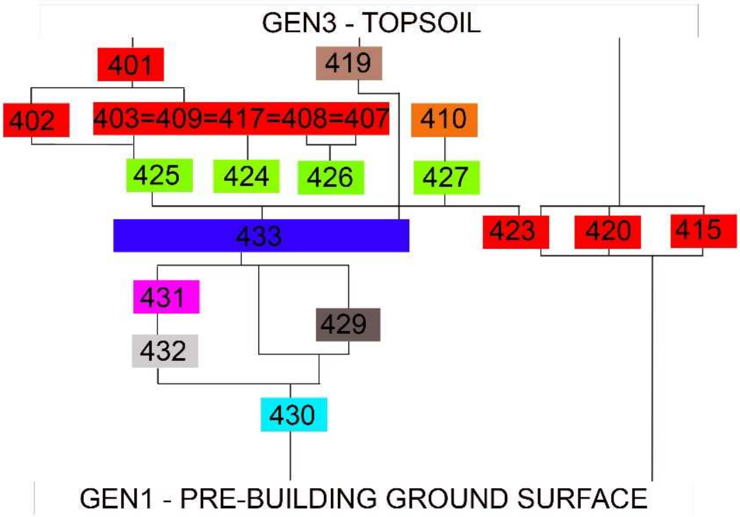
Panel no./ Wall	Manner of falling	Excavated	Suggested Excavation Context	Sketch
14/South	Front on fell inwards; possibly slid out later	YES	? Part of 417 or 423	
15/Soutli	Fell as it stood: no sandwich	YES	420	
16/South	Fell as it stood: no sandwich	YES	420	
18/Soutlh	Fell inwards hi to house after fall of fronton	NO		
21/West	Remained standing until DAY 2. when it fell outward (no further ash support)	YES	402	
22/West	Fell as sandwich, with decoration on top	YES	403	
23/West	Not clear but forming a sandwich	YES	407	
24/West	Not clear but forming a sandwich	YES	408	

a

b


c

Fig. 16. (a) Correlation of house-burning events with Quad 4 contexts (source: B. Gaydarska); (b) vitrified daub, Quad 4; (c) painted daub, Quad 4 (source: J. Chapman).



a

CONTEXT NO.	CONTEXT DESCRIPTION
401	2-3-cm-thick layer of unburnt OR weakly burnt clay, above 402 and 403
402	fallen upper wall panel of mostly cream and some red daub
403	solid cream daub wall with painted decoration
405	ground surface outside house, often burnt (=GEN1)
407	collapsed wall panel next to 402 / 403
408	collapsed wall panel East of 407
409	two horizontal wall lines separated by void
410	fragmented 'ceiling' (i.e., upper floor) and potential middle floor remains
415	horizontal wall panel fragments fallen outwards
417	tumble of wall panel fallen inwards, above ash deposit 433
419	charred timbers lying on 410
420	South wall panels that had fallen outwards
423	wall panel near door, fallen inwards
424	wall tumble including fragments of 'middle floor' hearth, beneath 417
425	lower wall panel beneath 402 and 403, showing timber void
426	lower wall collapse beneath 407
427	mixed middle floor' collapse beneath 'ceiling' (410) and above ashy deposit
429	ground floor hearth
430	burnt house floor (=GEN2)
431	timber beams
432	foundation trenches
433	ash deposit mixed in with / beneath 427

b

Fig. 17. (a) Harris Matrix, Quad 4 (source: B. Gaydarska);
(b) context list, Quad 4 (source: J. Chapman).

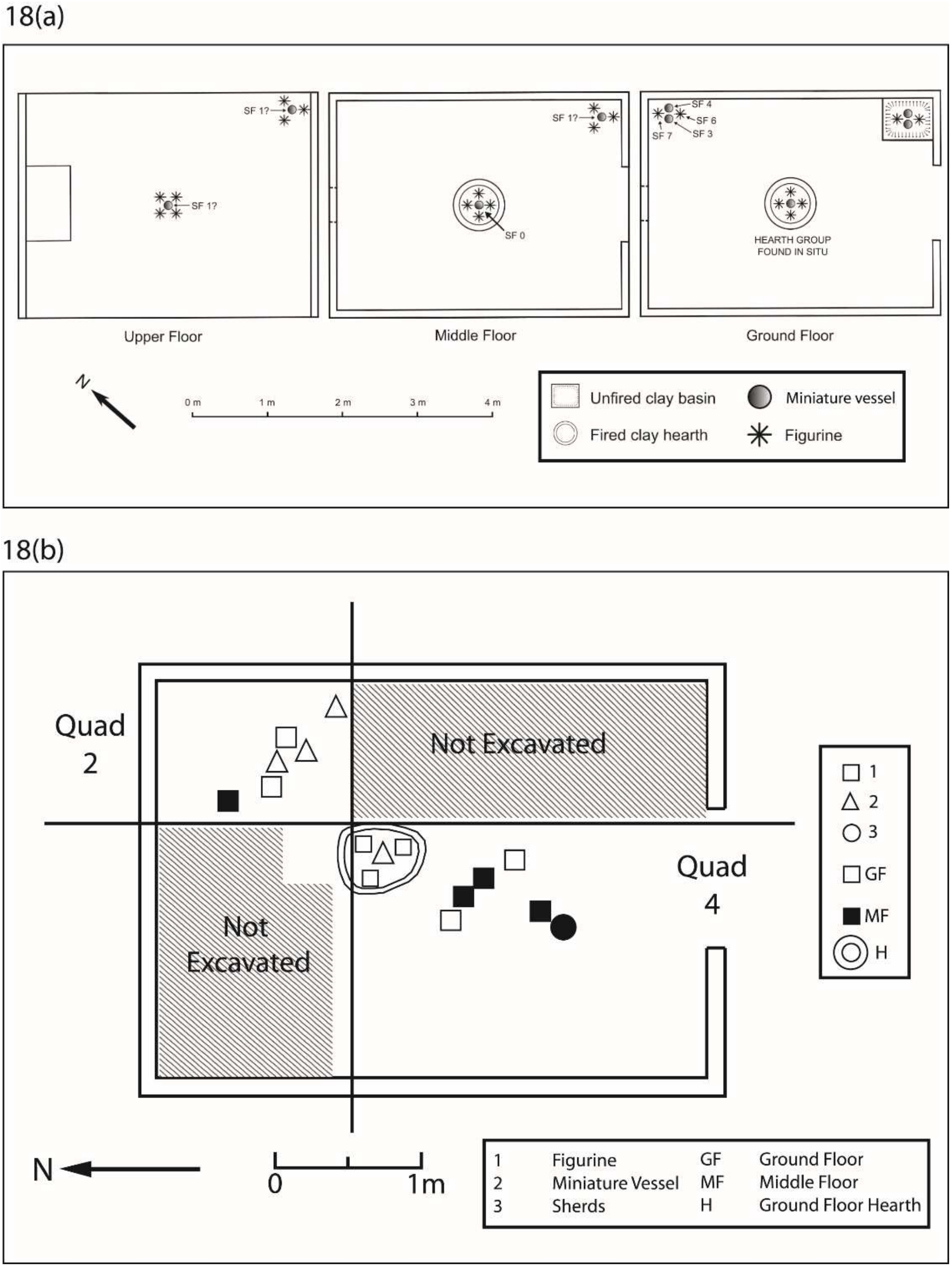


Fig. 18. Finds locations: (a) pre-burning; (b) plan of finds in excavation (source: S. Johnston, drawn by L. Woodard).

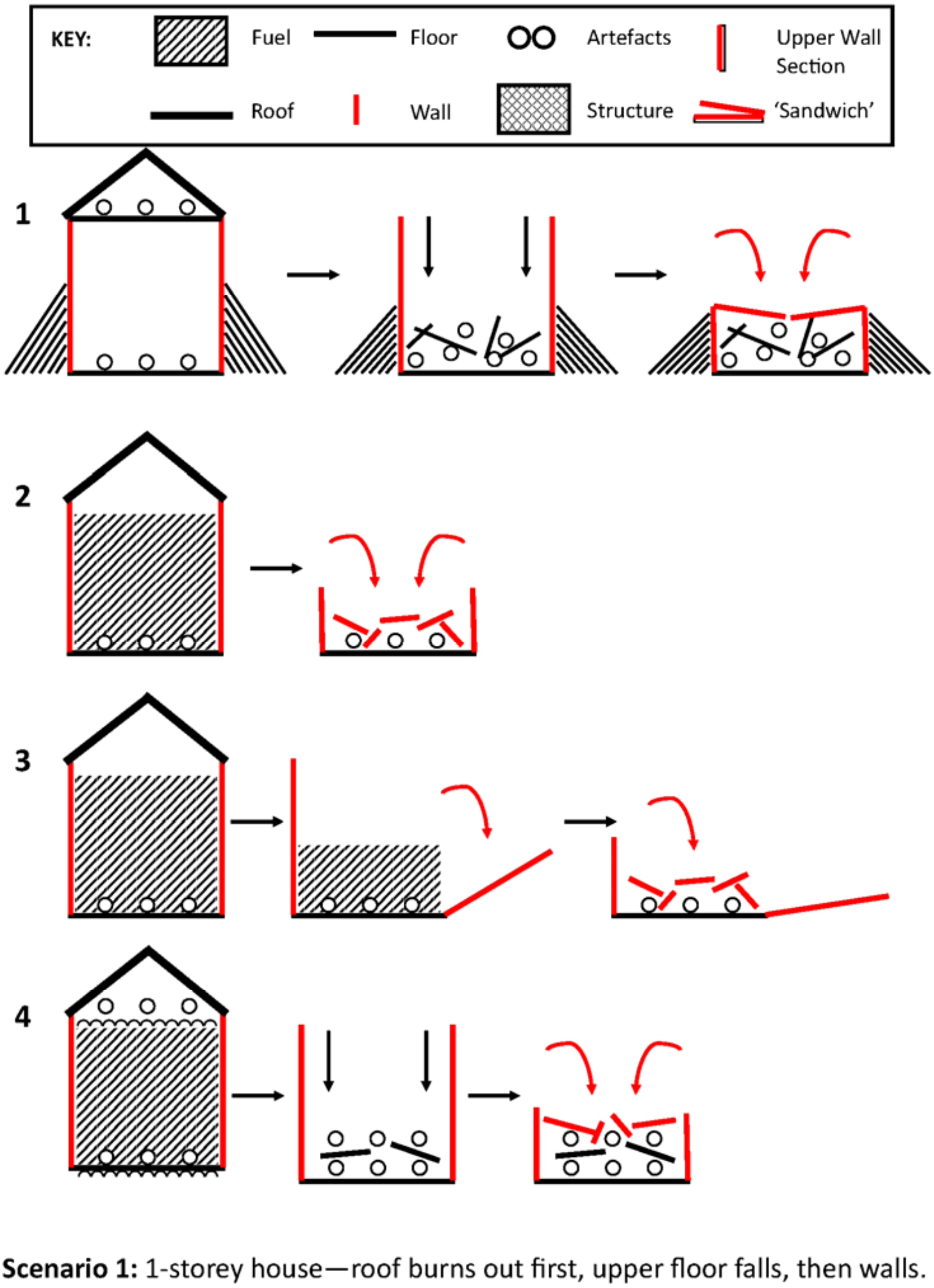


Fig. 19. One-storey house collapse scenarios (source: L. Woodard).

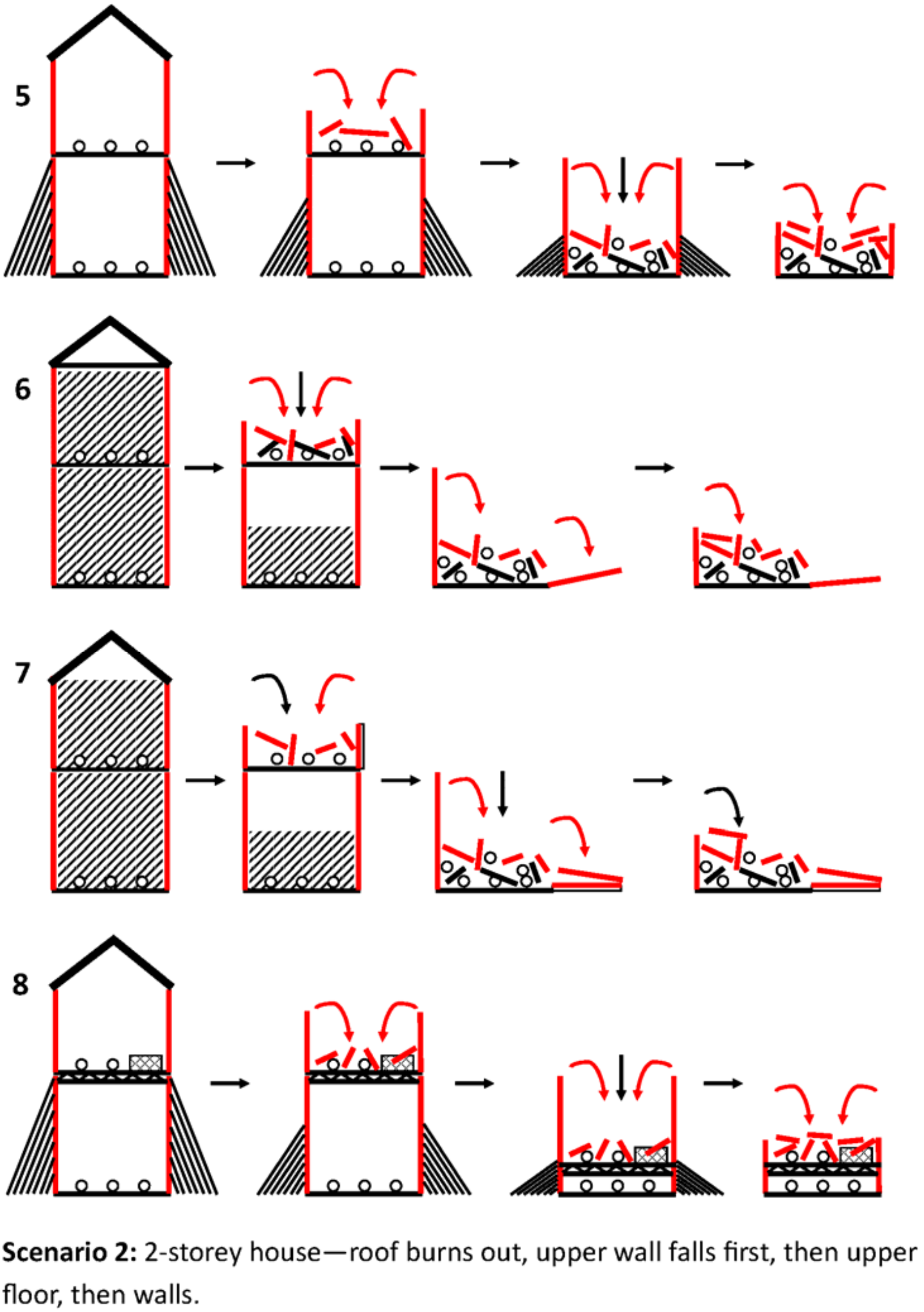


Fig. 20. Two-storey house collapse scenarios (source: L. Woodard).

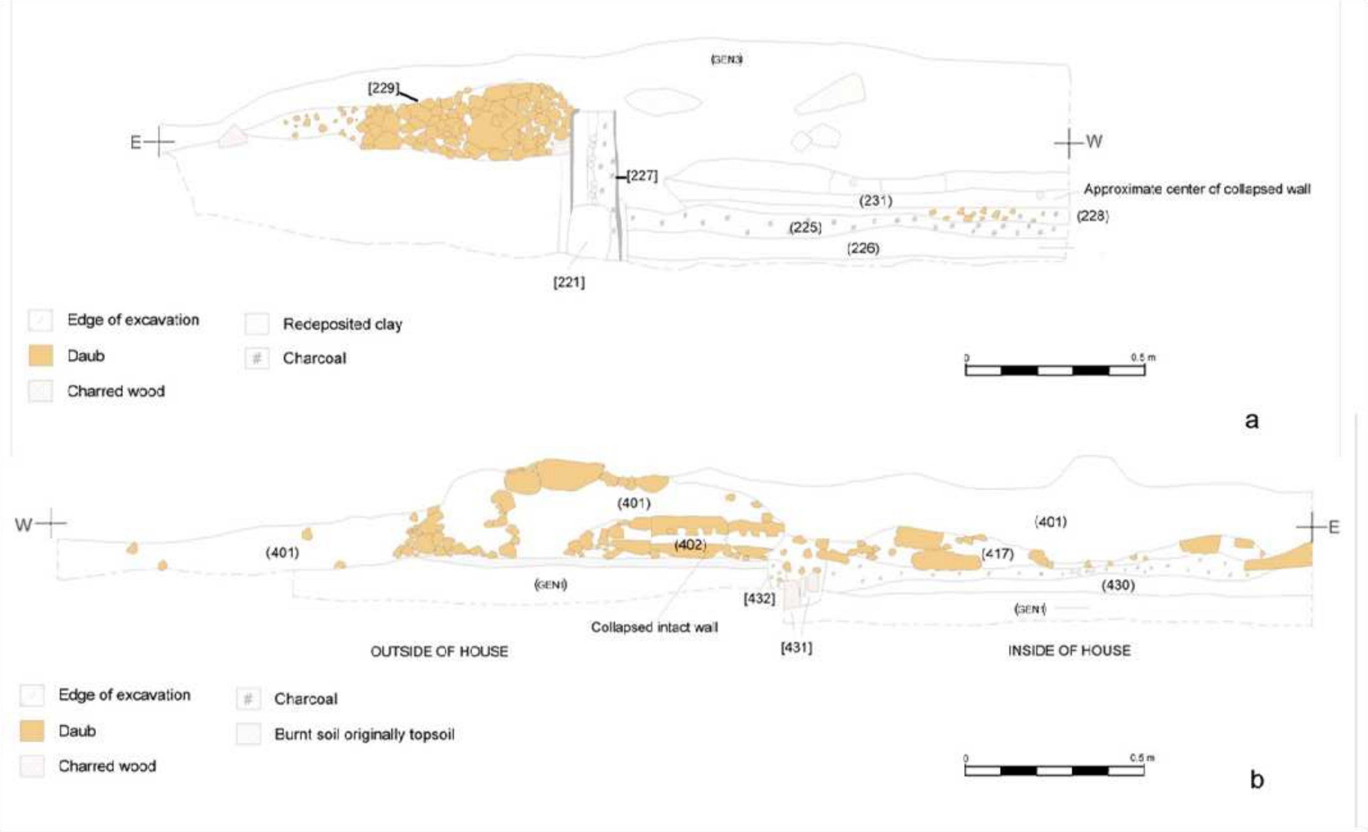


Fig. 21. (a) East-facing section, Quad 2; (b) South-facing section, Quad 4 (digitised by P. Voke after M. Nebbia photogrammetry).

FRÜHE METALLOBJEKTE AUS DER SAMMLUNG DES SCHÄSSBURGER MUSEUMS

Nikolaus BOROFFKA[1], *Rodica BOROFFKA*[2]

Abstract: Early metal objects from the collection of the Schäßburg (Sighişoara) Museum are published here. Some were considered lost, others are published for the first time. Typologically they include one hammer axe of the Codor type, flat axes of various types and axe-adzes of the Jászladány type, Bradu variant, besides some fragments, presumably of axe-adzes, which are insufficiently preserved for typological classification. Chronologically the objects cover the time of the Tiszapolgár/Petreşti/ Cucuteni A/Gumelniţa A1-2-B1 period, the Bodrogkeresztúr/Cucuteni AB-B time, and the period of the Horodiştea-Folteşti I Kultur/Glina III/Schneckenberg. It is remarked, that in the wider area of Schäßburg (Sighişoara) bearers of either the Tiszapolgár or the Petreşti culture may have used the objects of the earliest types, while most probably people of the Bodrogkeresztúr culture produced the second chronological group. The latest group is not securely dated and possibly belongs to later Middle Bronze Age cultures. Generally the area is not well researched for the Neolithic and Eneolithic periods, but potential is evident.

Keywords: *Romania, Schäßburg/Sighişoara, Copper Age, Early Bronze Age, Metall artefacts*

Die folgenden Zeilen sind der Jubilarin, Dr. Cornelia-Magda Lazarovici, gewidmet. In ihrer langjährigen Arbeit hat sie alle archäologischen Perioden vom Paläolithikum[3] bis zur Neuzeit[4] abgedeckt, konzentrierte sich aber vor allem auf Neolithikum und Kupferzeit.

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[3] Z.B. ISTRATE 1978; ISTRATE 1981 (Istrate ist der Geburtsname von Dr. C.-M. Lazarovici). Die Station von Mitoc ist heute eine der wichtigsten und bekanntesten paläolithischen Fundstellen in Rumänien.

[4] Z.B. MANTU 1978 (Mantu war der Familienname nach der ersten Heirat).

Magda Lazarovici hat sich besonders intensiv mit der Cucuteni-Tripolje Kultur beschäftigt, die auch Thema ihrer Dissertation war[5]. Neben zahlreichen wissenschaftlichen Publikationen hat sie auch immer wieder für eine publikumswirksame Präsentation von Forschungsergebnissen gesorgt. Abgesehen von mehreren Ausstellungen in Rumänien war Sie so auch Mit-Organisatorin der weithin beachteten internationalen Ausstellung zur Cucuteni Kultur in Thessaloniki[6]. Besonders für die frühen Metallzeiten hat sie für Südosteuropa ganz wesentlich zu unserer Kenntnis und unserem Verständnis beigetragen[7]. In vielen Ihrer Publikationen wurden dem entsprechend auch kupferzeitliche Gegenstände aus Metall diskutiert, so daß es passend erscheint hier einige kupferzeitliche Objekte aus der Sammlung des Museums Schäßburg (Sighişoara)[8] zu präsentieren.

Für mehrere Stücke ist kein genauer Fundort bekannt, sie dürften aber aus der näheren oder weiteren Umgebung von Schäßburg stammen. In dem Gebiet sind neolithische und kupferzeitliche Funde zwar bekannt (Abb. 1), aber kein einziger Fundort ist gezielt für diese Perioden systematisch untersucht worden. Angesichts der, für spätere Perioden, langjährigen Erforschung des Gebietes ist dies eigentlich ein wenig überraschend. Die 11 metallenen Geräte, bzw. Fragmente, die hier vorgelegt werden, unterstreichen, zusammen mit den bisher bekannten Fundorten, eine deutliche Anwesenheit des Menschen in den genannten Perioden, so daß der ungenügenden Forschungsstand der weiteren Umgebung von Schäßburg noch deutlicher hervortritt.

Katalog der Fundorte und Objekte

Großalisch (Seleuş, ehemals Seleuşul Mare), Gemeinde Daneş, Kreis Mureş. Höchstwahrscheinlich handelt es sich hierbei um den Randleistenmeißel, der bei Lazăr erwähnt wird[9]. Demnach stammte das Stück aus der Umgebung des Dorfes vom Ufer der Großen Kokel (Târnava Mare).

Inv. Nr. 2501 (Abb. 2.1). Massiver Meißel oder meißelartiges Beil mit alter Beschädigung am Nacken, bei der eine Ecke abgebrochen ist. Schlanker Körper mit seitlichen Leisten. Der Querschnitt ist facettiert. Kupfer, mit grüner Patina. Länge 17,5 cm, Breite 3,6 cm, Dicke 1,6 cm, Gewicht 370 g. Literatur: unveröffentlicht.

[5] MANTU 1998.

[6] Mantu, Dumitroaia, Tsaravopoulos 1997.

[7] Siehe die Bibliographie in diesem Band.

[8] Muzeul de Istorie Sighişoara. Der deutsche Name des heute rumänischen Ortes Sighişoara ist Schäßburg, der ungarische Segesvar. An dieser Stelle sei Herrn Gheorghe Baltag herzlich gedankt, der als verantwortlicher Archäologe zur Zeit der Dokumentation, sowohl beim Zugang zu den Objekten, als auch mit Informationen sehr hilfreich war.

[9] LAZĂR 1995, 117, XXVIII.3 b.

Schäßburg (Sighişoara) „Wietenberg"?, Gemeinde Sighişoara, Kreis Mureş.

Inv. Nr. I 40 (Abb. 2.2). Flachbeil mit flachen Kerben in der leicht ausschwingenden Schneide. Der Nacken ist leicht durch Hämmern verbreitert. Der Querschnitt ist rechteckig. Kupfer, mit grüner Patina. Länge 15,0 cm, Breite 6,3 cm, Dicke 1,2 cm, Gewicht 425 g. Literatur: Vulpe 1975, 67 Nr. 345, Taf. 37.345; Lazăr 1995, 226, LXXVII.1. Sighişoara, e), Taf. LVII.3.

Woher die Information kommt, daß das Stück vom „Wietenberg" stammen soll (Vulpe 1975) ist unklar, ebenso wie die Angabe „1898" (Lazăr 1995). Der Tafelverweis bei Lazăr (Lazăr 1995, Taf. LVIII.10) zeigt ein ganz anderes Lappenbeil und nicht das Beil Nr. 345 von Vulpe (= Lazăr 1995, Taf. LVII.3). Die Einordnung als Randleistenbeil und die Zeichnung bei Vulpe (bei Lazăr 1995, Taf. LVII.3 übernommen) sind falsch - das Stück ist flach und weist keine Randleisten auf.

Werd (Vărd), Gemeinde Chirpăr, Kreis Sibiu. Zufallsfund des 19. Jh. Das Flachbeil wird hier, entsprechend dem Inventarbuch des Museums Schäßburg, dem Fundort Werd (Vărd) zugeordnet, wobei es im 19. Jh. entdeckt wurde, ebenso wie zwei spätbronzezeitliche Horte[10] und der weiter unten behandelte kupferzeitliche Depotfund aus derselben Ortschaft. Es wird allerdings klar als Einzelfund genannt, so daß ein Zusammenhang mit dem kupferzeitlichen Hort sehr unwahrscheinlich ist.

Inv. Nr. 2564 (**Abb. 2.3**). Alte Inv. Nr. 27. Zufallsfund des 19. Jh. Dünnes Flachbeil mit sehr geraden Seiten. Der Querschnitt ist flach rechteckig. Kupfer, ohne erhaltene Patina. Länge 10,1 cm, Breite 3,0 cm, Dicke 0,2 cm, Gewicht 38,20 g. Literatur: Petrescu-Dîmboviţa 1977, 132, 330 Taf. 313.1; Petrescu-Dîmboviţa 1978, 143 Nr. 227.

Bei Petrescu-Dîmboviţa wird diese Inventar-Nr. unter dem Hortfund von Deutsch-Neudorf (Noul Săsesc) aufgeführt, der in die Periode Hallstatt B1 datiert wird. Im Text wird jeweils ein Flachbeil genannt, leider ohne Angabe einer Inventar-Nummer. Auf den Tafeln ist das Beil ebenfalls unter „Noul Săsesc" abgebildet, in der Ausgabe von 1978 auf Taf. 237.A allerdings ohne Nummer. Das Flachbeil wird hier, entsprechend dem Inventarbuch des Museums Schäßburg, dem Fundort Werd zugeordnet. Es wurde im 19. Jh. entdeckt, ebenso wie zwei spätbronzezeitliche Horte[11] und ein kupferzeitlicher Depotfund[12] aus derselben Ortschaft.

[10] PETRESCU-Dîmboviţa 1977, 137, Taf. 332.10-21 (Vărd I), 160 (Vărd II); PETRESCU-DÎMBOVIŢA 1978, 146, Nr. 241, Taf. 249.B (Vărd I), 158 (Vărd II). Jeweils mit älterer Bibliographie.

[11] PETRESCU-DÎMBOVIŢA 1977, 137, Taf. 332.10-21 (Vărd I), 160 (Vărd II); PETRESCU-DÎMBOVIŢA 1978, 146, Nr. 241, Taf. 249.B (Vărd I), 158 (Vărd II). Jeweils mit älterer Bibliographie.

[12] TÉGLÁS 1888, 120, Abb. 13-16; VULPE 1975, 43, Nr. 178-179, Taf. 24.178-179, 45, Nr. 198, Taf. 27.198, 53, Nr. 242 (der Hinweis auf eine vermeintlich fehlerhafte Abbildungsunterschrift bei Téglás ist nicht richtig), Taf. 31.24.

Werd (Vărd), Hortfund III[13], Gemeinde Chirpăr, Kreis Sibiu. Depotfund von der Flur „Schower Nak", der 1876 von Johann Melzer beim Pflügen am Zusammenfluss von Werder Bach (pârâul Vărd, heute Albac) und Haarbach (Hârtibaciu) gefunden wurde. Literatur: Téglás 1888, 120, Abb. 13-16 (Téglás gibt „János Metzer" als Finder an, im Inventarbuch Schäßburg ist jedoch Johann Melzer verzeichnet); Vulpe 1975, 43 Nr. 178-179, Taf. 24.178-179, 45 Nr. 198, Taf. 27.198, 53 Nr. 242, Taf. 31.242; Mareş 2002, 333-334 Nr. 1709-1712. Vulpe (und ihm folgend Mareș) hielt den Hort für „… wahrscheinlich verschollen" und verwendete die eher skizzenhaften Abbildungen von Téglás. Tatsächlich wird der gesamte Hort im Museum Schäßburg aufbewahrt, so daß hier aktuelle und genauere Zeichnungen und Angaben vorgelegt werden können.

Inv. Nr. 2509 (Abb. 3.1). Alte Inv. Nr. 4 und 14. Teil des Depotfundes von der Flur „Schower Nak". Um das Schaftloch ist die Oberseite ringförmig verdickt und auf der Unterseite findet sich ein stärker herausragender zylindrischer Grat. Das Schaftloch ist an einer Seite alt beschädigt und aufgerissen. Der Querschnitt der Arme ist gerundet. Kupfer, mit grüner Patina. Länge 24,8 cm, Breite 6,0 cm, Dicke am Schaftloch maximal 3,1 cm, Gewicht 1035 g. Literatur: Téglás 1888, 120, Abb. 13a-b; Vulpe 1975, 43 Nr. 178, Taf. 24.178; Mareş 2002, 333 Nr. 1709, Taf. 43.6.

Inv. Nr. 2510 (Abb. 3.4). Alte Inv. Nr. 23 und 37. Teil des Depotfundes von der Flur „Schower Nak". Fragment einer kreuzschneidigen Axt-Hacke, bei dem vor Allem die Axt-Schneide fehlt. Die Hacken-Schneide ist gerundet abgenutzt. Um das Schaftloch ist die Oberseite ringförmig verdickt und auf der Unterseite findet sich ein stärker herausragender zylindrischer Grat. Der Querschnitt der Arme ist gerundet. Kupfer, mit grüner Patina. Länge 17,2 cm, Breite 5,2 cm, Dicke am Schaftloch maximal 3,2 cm, Gewicht 682 g. Literatur: Téglás 1888, 120, Abb. 15a-b; Vulpe 1975, 43 Nr. 178-179, Taf. 24.179; Mareş 2002, 333 Nr. 1710, Taf. 43.7.

Inv. Nr. 2511 (Abb. 3.2). Alte Inv. Nr. 456. Teil des Depotfundes von der Flur „Schower Nak". Kreuzschneidige Axt-Hacke. Um das Schaftloch ist die Oberseite ringförmig verdickt und auf der Unterseite findet sich ein stärker herausragender zylindrischer Grat mit einem kleinen Ausbruch. Der Querschnitt des Armes ist gerundet. Kupfer[14], mit grüner Patina. Länge 22,5 cm, Breite 5,8 cm, Dicke am Schaftloch maximal 4,2 cm, Gewicht 1115 g. Literatur: Téglás 1888, 120, Abb. 14a-b; Vulpe 1975, 45 Nr. 198, Taf. 27.198; Mareş 2002, 333 Nr. 1711, Taf. 44.7.

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[13] Berücksichtigt man die beiden spätbronzezeitlichen Hortfunde aus Werd, so müßte diese Hort als der dritte bezeichnet werden, obwohl er der älteste derzeit bekannte ist. VULPE (1975, 43, Nr. 178-179, Taf. 24.178-179, 45, Nr. 198, Taf. 27.198, 53, Nr. 242, Taf. 31.242) hatte dem Hort keine eigene Numerierung gegeben. Zu den jüngeren Horten siehe PETRESCU-DÎMBOVIȚA 1977, 137, Taf. 332.10-21 (Vărd I), 160 (Vărd II); PETRESCU-DÎMBOVIȚA 1978, 146, Nr. 241, Taf. 249.B (Vărd I), 158 (Vărd II). Jeweils mit älterer Bibliographie.

[14] Obwohl hier (und im Weiteren) Kupfer angegeben ist, sei ausdrücklich darauf verwiesen, daß keine Analysen durchgeführt wurden und es sich nur um eine optische Ansprache handelt.

Inv. Nr. 2512 (Abb. 3.3). Alte Inv. Nr. 466 und 39. Teil des Depotfundes von der Flur „Schower Nak". Fragment von der Schneide und etwa der Hälfte des Schaftloches einer, vermutlich, kreuzschneidigen Axt-Hacke. Die Brüche sind alt und offenbar absichtlich verursacht, da eine Seite der Schaftlochwand nach Innen deformiert wurde. Um das Schaftloch war die Oberseite ringförmig verdickt und auf der Unterseite fand sich ein stärker herausragender zylindrischer Grat. Der Querschnitt ist gerundet rechteckig. Kupfer, mit grüner Patina. Länge 13,6 cm, Breite 15,8 cm, kleinste Dicke des Armes 2,3 cm, Gewicht 725 g. Literatur: Téglás 1888, 120, Abb. 16a-b; Vulpe 1975, 53 Nr. 242, Taf. 31.242 (der Hinweis auf eine fehlerhafte Abbildungsunterschrift bei Téglás ist nicht richtig); Mareş 2002, 334 Nr. 1712, Taf. 49.10.

Fundort unbekannt/Umgebung Schäßburg (Sighişoara)?, Gemeinde Sighişoara, Kreis Mureş. Vermutlich trifft, zumindest teilweise, auf diese Stücke die Angabe bei Lazăr (Lazăr 1995, 226, LXXVII.1. Sighişoara, A. d)) zu, nach der aus der „Umgebung" von Sighişoara mehrere Kupferäxte/-beile stammen sollen[15]. Die bei Lazăr abgebildeten Stücke (Lazăr 1995, Taf. LVII.8-10) sind mittelbronzezeitlich und werden hier nicht diskutiert.

Inv. Nr. 167 (Abb. 4.1). Schneidenfragment einer, vermutlich, kreuzschneidigen Axt-Hacke. Der Querschnitt ist gerundet. Kupfer, mit grüner Patina. Länge 6,2 cm, Breite 4,3 cm, Dicke 2,3 cm, Gewicht 177 g. Literatur: unveröffentlicht.

Inv. Nr. 2500 (Abb. 4.3). Massiver Meißel oder meißelartiges Beil mit schwerer alter Beschädigung an der Schneide, bei der eine Ecke gewaltsam abgebrochen wurde. Der Nacken ist seitlich leicht durch Hämmern deformiert. Schlanker Körper mit gerundet rechteckigem Querschnitt, auf einer Seite flacher, auf der anderen leicht gewölbt. Kupfer, mit grüner Patina. Länge 13,9 cm, Breite 2,5 cm, Dicke 2,0 cm, Gewicht 425 g. Literatur: unveröffentlicht.

Inv. Nr. 2513 (Abb. 4.2). Schneidenfragment einer, vermutlich, kreuzschneidigen Axt-Hacke. Die Oberseite weist näher zum ehemaligen Schaftloch langovale Hammerspuren auf. Der Querschnitt ist gerundet. Kupfer, mit grüner Patina. Länge 9,3 cm, Breite 3,2 cm, kleinste Dicke des Armes 1,5 cm, Gewicht 264 g. Literatur: unveröffentlicht.

Inv. Nr. 2528 (Abb. 4.4). Massive Axt oder Hammer. Eine Schneide fehlt, auf Grund von Vergleichen dürfte es sich jedoch ursprünglich um eine Hammeraxt gehandelt haben. In der Seitenansicht ist das Stück im Bereich des Schaftloches leicht geknickt. Das Schaftloch ist gestaucht und wirkt daher oval, war aber ursprünglich wohl rund. Die Deformationen sind alt und das Stück wurde, den Spuren an der „Schneide" nach zu urteilen, sekundär als Hammer benutzt, allerdings nicht so intensiv, daß der Bruch vollkommen glatt wurde. Der Querschnitt

[15] „Mai multe topoare din cupru dintre care unele *din împrejurimi*".

ist gerundet facettiert. Kupfer, mit grüner Patina. Länge 11,9 cm, Breite 3,7 cm, Dicke 3,0 cm, Gewicht 505 g. Literatur: unveröffentlicht.

TYPOLOGISCHE UND CHRONOLOGISCHE EINORDNUNG

Trotz verschiedentlich geäußerter Kritik[16] bleiben die Arbeiten von A. Vulpe[17], und ihm folgend I. Mareş[18], für die typologische Einordnung von grundlegender Bedeutung.

Nach der Gliederung von Vulpe, der auch Mareş grundsätzlich folgt, handelt es sich bei den Objekten aus dem Museum Schäßburg um eine Hammeraxt, mehrere kreuzschneidige Axt-Hacken, ein massives Beil und zwei Flachbeile.

Die Hammeraxt Inv. Nr. 2528 (Abb. 4.4, Fundort unbekannt/Umgebung Schäßburg?) ist, trotz der unvollständigen Erhaltung, am ehesten dem Typ Codor (A.B.1.6. nach Mareş) zuzuordnen, dem sie mit der verhältnismäßig kurzen Form, dem plumpen Umriß und dem ganzen abgeknickten Nacken gut entspricht. Der Typ ist bisher vor allem aus dem nordwestlichen Siebenbürgen bekannt (Someş-Becken) gewesen, allerdings sind nahe verwandte Exemplare aus dem Hortfund von Hesseldorf (Aţel)[19] auch aus der unmittelbaren Nähe von Schäßburg bekannt. Sie wurden typologisch in die zeitliche Nähe der Hammeräxte vom Typ Vidra gerückt, mit zeitlichem Höhepunkt in der Cucuteni-A - Gumelniţa A2-B1 Zeit[20].

A. Vulpe hatte die kreuzschneidige Axt-Hacken des Hortes von Werd grundsätzlich dem Typ Jászladány zugeordnet, wobei er die größere Vollständige (Inv. Nr. 2509, Abb. 3.1) und die vollständigere Fragmentarische (Inv. Nr. 2510, Abb. 3.4) in die Variante Bradu stellte[21], wogegen er die zweite vollständige Axt-Hacke (Inv. Nr. 2511, Abb. 3.2) als Sonderform betrachtete[22], allerdings nur nach den Zeichnungen von Téglás und ohne das Stück im Original gesehen zu haben. Mareş folgt ihm bei der Einordnung[23]. Das stark fragmentiert vierte Exemplar (Inv. Nr. 2512, Abb. 3.3) reihte Vulpe berechtigter Weise unter die nicht sicher zuweisbaren Stücke ein[24]. Berücksichtig man nun die Neuaufnahme, so erscheinen die Unterschiede zwischen den Stücken eher minimal und der Hortfund von Werd kann als einheitlich, aus zwei vollständigen und zwei fragmentierten Axt-Hacken

[16] Z.B. BALTAG, BOROFFKA 1996, 388, Fußnote 41; BURTĂNESCU 2002; POPESCU 2006.

[17] VULPE 1975.

[18] MAREŞ 2002; MAREŞ 2012.

[19] VULPE 1975, 24, Nr. 32, Taf. 3.32 (angeblich ein Hortfund mit vier Hammeräxten – Sondererscheinung, dem Typ Codor verwandt).

[20] VULPE 1975, 23-24; MAREŞ 2002, 102.

[21] VULPE 1975, 43, Nr. 178-179, Taf. 24.178-179.

[22] VULPE 1975, 45, Nr. 198, Taf. 27.198.

[23] MAREŞ 2002, 111 – Typen A.B.4.2.5. und A.B.4.2.6.

[24] VULPE 1975, 53, Nr. 242.

des Typs Jászladány, Variante Bradu, bestehend angesehen werden. Zwei weitere Fragmente, jeweils nur die Schneiden-Enden von vermutlichen Axt-Hacken, lassen sich noch nicht einmal einem Typ, geschweige denn einer Variante zuordnen. Vulpe selbst hatte bereits darauf hingewiesen, daß die verschiedenen Varianten sich weder chronologisch, noch räumlich deutlich unterscheiden, sondern eventuell nur auf die „Tätigkeit verschiedener lokaler Herstellungszentren“ zurück gehen[25]. Räumlich finden sich die Axt-Hacken vom Typ Jászladány, Variante Bradu, im Bereich der Tiszapolgár und Bodrogkeresztúr Kulturen Ungarns, der Petrești Kultur Siebenbürgens und der Cucuteni Kultur Ostrumäniens, seltener auch weiter südlich im Bereich der Sălcuţa Kultur[26]. Zeitlich stellte er den Schwerpunkt ihres Gebrauches in die Zeit von Cucuteni AB bis Cucuteni B und der Bodrogkeresztúr Kultur[27].

Ein recht massives, meißelartiges Beil mit unbekanntem Fundort, vermutlich aus der Umgebung von Schäßburg (Inv. Nr. 2500, Abb. 4.3) läßt sich am besten den schmalen Flachbeilen der Variante Gumelnița nach Vulpe zuordnen, denen es mit der rechteckigen Form, dem leicht schmaleren Nacken und dem dicken Querschnitt mit einer glatten und einer leicht gewölbten Seite sehr gut entspricht[28]. Die Verbreitung ist bisher für charakteristische Stücke ausschließlich auf das Gebiet der Gumelnița Kultur beiderseits der Unteren Donau beschränkt, denn die beiden völlig außerhalb liegenden Exemplare von Târpești[29] und Klausenburg (Cluj)[30] unterscheiden sich deutlich davon und gehören eventuell anderen Typen oder Fundkategorien an. Die Datierung ist durch einige Funde in die Stufe Gumelnița A1-A2 gesichert.

Das einzeln gefundene sehr dünne Flachbeil aus Werd (Inv. Nr. 2564, Abb. 2.3) steht den breiten Flachbeilen, Variante Ostrovul-Corbului, formal am nächsten, die durch den länglich trapezförmigen Umriß und einen sehr schmalen Querschnitt charakterisiert sind. Besonders ähnlich sind etwa die Beile aus Klausenburg[31], Cecălaca[32], und „Rumänien“[33], die aber alle Einzelfunde sind und daher nur die Verbreitung im zentralen Siebenbürgen belegen. Auch Vulpe war bei einer chronologischen Einordnung sehr zurückhaltend und konnte lediglich feststellen, daß keine gesicherten Funde dieser Gruppe vor dem Siedlungsfund von Horodiștea (Horodiștea-Foltești I Kultur) bekannt sind, der nach die

[25] VULPE 1975, 46.

[26] VULPE 1975, 47-48, Taf. 53.A; MAREȘ 2002, 113, Karte 9.

[27] VULPE 1975, 46-47.

[28] VULPE 1975, 56; MAREȘ 2002, 117, Typ A.B.10.1.1.

[29] MAREȘ 2002, 313, Nr. 1. A.B.10.1.1., Taf. 50.5 (es handelt sich um eine Miniatur).

[30] VULPE 1975, 36, Nr. 249, Taf. 32.249 (dieser Gegenstand ist an beiden Enden stark abgerundet, und auch der Querschnitt ist nicht rechteckig, sondern plan-convex, so daß es sich wohl eher um einen Stabbarren handelt, als um ein Flachbeil).

[31] VULPE 1975, 60, Nr. 290, Taf. 33.290.

[32] VULPE 1975, 60, Nr. 293, Taf. 34.293.

[33] VULPE 1975, 60, Nr. 294, Taf. 34.294.

Cucuteni B Phase zu stellen ist. Ähnliche Flachbeile wurden aber möglicherweise noch bis in die Mittelbronzezeit produziert, wie etwa die Gußformen von Pecica und Sântion andeuten könnten[34].

Das Flachbeil aus Schäßburg „Wietenberg"? (Inv. Nr. I 40, Abb. 2.2) gehört nicht zu den „Trapezförmig länglichen Randleistenbeilen, Variante Şincai" wie es fälschlich von Vulpe publiziert wurde[35], da es keine Randleisten besitzt. Formal am nächsten steht dem Exemplar aus Schäßburg ein Flachbeil mit verbreiterter Schneide aus „Karlsburg (Alba Iulia)"[36], das jedoch keinen Fundkontext hat. Räumlich kommen Flachbeile mit verbreiterter Schneide in sehr vielen Gebieten vor. Insgesamt können die Flachbeile nicht genauer datiert werden, als es oben bereits für das Einzelstück aus Werd angegeben wurde.

Das schmale Randleistenbeil aus Großalisch (Inv. Nr. 2501, Abb. 2.1) ähnelt sehr stark einem Einzelfund aus Partoş, den Vulpe als namengebend für die Variante Partoş ansah[37]. Verbreitet sind die schmalen Randleistenbeile vor allem in Siebenbürgen, mit einer einzigen Ausnahme aus einem frühen Grab von Ploieşti-Triaj[38]. Alle rumänischen Exemplare dieser Variante sind Einzelfunde, so daß sie keine Hinweise auf eine Datierung aus dem Kontext bieten. Das dem Beil aus Großalisch ähnlichste Exemplar aus Partoş ist aus Kupfer, was auf eine frühe Zeitstellung deuten könnte, ein Weiteres aus Sebeş enthält aber laut Vulpe 4,8% Zinn und dürfte daher bronzezeitlich sein[39]. Andere nahestehende Formen, insbesondere die Variante Şincai, lassen sich über einige wenige Funde in die Zeit der Horodiştea-Folteşti I und Glina III Kultur stellen, wobei ein Exemplar der Variante Şincai sogar noch aus dem spätbronzezeitlichen Hortfund von Şpălnaca II stammen soll[40]. Ein mögliches kupferzeitliches Alter wird allerdings durch den Fund von Sânzieni angedeutet, der zusammen mit einer kreuzschneidigen Axt-Hacke gefunden worden sein soll[41].

KULTURELLE EINORDNUNG

In dem archäologischen Repertorium des Kreises Mureş, zu dem auch Schäßburg gehört, wird zusätzlich zu den hier vorgelegten frühen Metallfunden noch eine kreuzschneidige Axt vom Typ Jászladány, Variante Bradu, aus Hondorf (Viişoara) als

[34] VULPE 1975, 62, Nr. 311-318 und 319-320, Taf. 35.311-318 und 319-320.

[35] VULPE 1975, 67, Nr. 345, Taf. 37.345 – die Zeichnung ist falsch.

[36] VULPE 1975, 62, Nr. 322, Taf. 36.322; MAREŞ 2002, 120, Typ A.B.10.3, 179, Alba Iulia 2.AB.19. (9A) - die Analyse ergab praktisch reines Kupfer und macht eine frühe Datierung wahrscheinlich.

[37] VULPE 1975, 66, Nr. 337, Taf. 37.337.

[38] VULPE 1975, 66, Nr. 342, Taf. 37.342.

[39] VULPE 1975, 66.

[40] VULPE 1975, 67, Nr. 347, Taf. 38.347.

[41] SZÉKELY 1970, 202-203, Abb. 1,2-2; VULPE 1975, 67, Nr. 350, Taf. 38.350. Es ist nicht nachvollziehbar warum Vulpe die recht präzisen Angaben von Székely anzweifelt.

Einzelfund genannt[42], sowie ein kupferzeitlicher Meißel aus Jacodu von „unbekannter Form", den Vulpe unter die „Lappenbeile unbekannter Form" einordnete[43]. Hinzu kommen im weiteren Umfeld noch Einzelfunde im südöstlich angrenzenden Gebiet des Kreises Sibiu aus Agnetheln (Agnita)[44], Großlasseln (Laslea)[45] und Schmiegen (Şmig)[46]. Hortfunde mit zwei bis vier Äxten fanden sich westlich in Hesseldorf[47] und südwestlich, neben Werd, noch in Alzen (Alţâna)[48].

Die frühen Metallfunde der Umgebung von Schäßburg stammen somit aus der Stadt selbst und der Zone westlich, südwestlich und nordwestlich davon (Abb. 1.1) und die hier publizierten Funde reihen sich ohne Probleme in das Typenspektrum ein.

Am häufigsten sind für Neolithikum und Kupferzeit Funde von Steinäxten oder -beilen[49]. Sie sind vor allem aus Schäßburg und seiner Umgebung, sowie südlich davon bei

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[42] VULPE 1975, 43, Nr. 177, Taf. 24.177 (nach Téglás); LAZĂR 1995, 280, Taf. LVII.18 (XCIV.1. Viişoara, A. b) – irrtümlich als „Variante Bran" bezeichnet).

[43] LAZĂR 1995, 276 (XCIII.2. Jacodu, A.a)); VULPE 1975, 81. Die Angabe „kupferzeitlich" (bei Lazăr) widerspricht allerdings der möglichen Zuordnung zu „Lappenbeilen" (bei Vulpe), da Letztere frühestens mittelbronzezeitlich sind.

[44] VULPE 1975, 28, Nr. 52, Taf. 6.52 (Hammeraxt Typ Agnita).

[45] LUCA, PINTER, GEORGESCU 2003, 121-122, Nr. 117.6.

[46] TÉGLÁS 1888, 118, 121, Abb. 11-11a; LUCA, PINTER, GEORGESCU 2003, 216, Nr. 224.1.; VULPE 1975, 43, Nr. 174, Taf. 23,174 (Axt-Hacke Typ Jászladány, Variante Bradu). Bei Luca *et al.* (2003, 33-34, Nr. 8.1.) wird das Stück nochmals unter dem ganz woanders gelegenen Fundort Almen (Alma Vii) aufgeführt, angeblich falsch lokalisiert in Şmig. Die Literaturangaben sind fehlerhaft und es gibt keinen Verweis auf Vulpe (VULPE 1975, 43, Nr. 174 [Şmig], Taf. 23.174), der die Literatur richtig angibt, vollständigere Angaben zu dem Objekt bietet und das Stück auch abbildet. Nach der ältesten Publikation (TÉGLÁS 1888, 118, 121, Abb. 11-11a) ist die Lokalisierung bei Şmig („zwischen Almaschken [Alma] und Schmiegen [Şmig]") richtig und nicht der vermeintliche Fundort Alma Vii.

[47] VULPE 1975, 24, Nr. 32, Taf. 3.32 (angeblich ein Hortfund mit vier Hammeräxten – Sondererscheinung, dem Typ Codor verwandt).

[48] VULPE 1975, 40, Nr. 130-131, Taf. 17.130-131 (zwei Axt-Hacken vom Typ Jászladány, Variante Şincai).

[49] LAZĂR 1995, 47 (V.1. Apold, A. Steinaxt/-beil), 47-48 (V.2. Daia, A. Zwei Steinäxte/-beile), 49-50 (V.3. Şaeş. A. „Râpa dracului" – Steinaxt/-beil, B. „Gezatzkel" – Steinaxt/-beil, D. „Romrich" – Steinaxt/-beil, E. „Vii (Weingarten)" – Steinaxt/-beil), 51 (V.4. Vulcan, A. Steinaxt/-beil), 115 (XXVIII.1. Daneş, A. Steinäxte/-beile), 226 (LXXVII.1. Sighişoara, A. a) 36 Steinäxte/-beile), 276 (XCIII.2.B. Jacodu „Valea frumoasă" – Steinaxt/-beil); LUCA, PINTER, GEORGESCU 2003, 29 (Nr. 3.1.a Agnita – zwei Steinäxte/-beile), 43 (Nr. 17.1. Aţel – zwei Steinäxte/-beile, einmal aus Amphibolit), 51 (Bârghiş – Steinaxt/-beil), 52 (Nr. 26.1. Biertan – Steinaxt/-beil und neolithische Scherben), 102 (Nr. 80.1. Ernea – Meißel und Werkzeuge aus Stein), 107 (Nr. 96.1. Giacăş – Schuhleistenkeil aus grau-grünem Diabas), 117 (Nr. 108.1. Iacobeni – Steinaxt/-beil und Fragmente Weiterer), 121-122 (Nr. 117.6. Laslea – zwei geschliffene Steingeräte), 137 (Nr. 130.1. Merghindeal – Steinaxt/-beil), 148 (Nr. 148.1. Netuş – zwei Steinäxte/-beile, aus Serpentin und Amphibolit), 168 (Nr. 177.2. Prod – Amphibolit-Axt/Beil), 179 (Nr. 188.1. Richiş – Steinaxt/-beil aus dem Bachufer), 241 (Nr. 261.3. Vărd „Towern" – Steinaxt/-beil), 243 (Nr. 264.1. Veseud „Herrengrund" – fragmentarische Steinäxte/-beile, Nr. 264.2. Veseud – Steinaxt/-beil). Hinzu kommen die Angaben bei BALTAG, AMLACHER 1994, 175 (Daia „Heinzel" - zwei Silexbeile).

Schaas (Şaeş) und Denndorf (Daia) konzentriert, aber grundsätzlich gleichmäßig im ganzen Gebiet verteilt (Abb. 1.2). Sie sind für keine Kultur spezifisch und somit für eine kulturelle Charakterisierung nicht hilfreich; manche können sogar noch bronzezeitlich sein.

Als allgemein „neolithisch“ ist die Keramik aus Birthälm (Biertan)[50], Dunnesdorf (Daneş)[51] und Hondorf[52] bezeichnet, als allgemein „kupferzeitlich“ Jene aus Bürgesch (Bârghiş)[53] und Toppesdorf (Dupuş)[54], ohne daß es Hinweise auf eine mögliche Zugehörigkeit zu einer spezifischen Kultur gäbe. Ansonsten ist Keramik, die „neolithisch“ oder „kupferzeitlich“ eingeordnet wurde, in dem Arbeitsgebiet deutlich seltener als die Steinäxte/-beile, aber ebenfalls relativ gleichmäßig über das Gebiet verteilt (Abb. 1.3). Darunter findet sich nur ein Fundort, Breitau (Bratei) „Gräberfeld 3“[55], wo Material mehrerer Kulturen repräsentiert ist (Starčevo-Criş, Bandkeramik, Precucuteni, Theiss [Tisza] und Petreşti Kultur), und mehrere Fundorte mit jeweils nur einer neolithischen/kupferzeitlichen Kultur, wie etwa der Hof des Kindergartens in Rosenthal (Ruja) (Starčevo-Criş)[56], oder die sieben Fundorte, deren Keramik der Petreşti Kultur zugeordnet wird: Denndorf „Heinzel“[57], Schaas „La Ferma nr. 7“[58], Schaas „La Peri“[59], Schäßburg „Valea Dracului - La Podul de beton”[60], Sandau (Şoromiclea), A. „Ferma Şoromiclea“[61], Trapolden (Apold) „După Grădini“[62] und Waldhütten (Valchid)[63].

Bei den Funden, die der Petreşti Kultur zugeordnet werden, fällt allerdings auf, daß für keinen davon die charakteristische Bemalung erwähnt wird - bei Trapolden und Sandau wird sogar ausdrücklich auf das Fehlen von Bemalung hingewiesen, und auch bei Schaas „La Ferma Nr. 7“ werden nur geometrische Ritzverzierungen an einem Altar erwähnt. Obwohl mehrere der Fundorte bereits früh[64] oder spätestens in dem Artikel von

[50] Luca, Pinter, Georgescu 2003, 52, Nr. 26.1.

[51] LAZĂR 1995, 115, Nr. XXVII.1.A.a).

[52] LAZĂR 1995, 280, Nr. XCIV.1. Viişoara, A. a).

[53] Luca, Pinter, Georgescu 2003, 51, Nr. 23.1.

[54] LUCA, PINTER, GEORGESCU 2003, 101, Nr. 79.1.

[55] ZAHARIA 1994, 204; LUCA, PINTER, GEORGESCU 2003, 64 (Nr. 36.1.1. Brateiu „Gräberfeld 3“ – Starčevo-Criş, Bandkeramik, Precucuteni, Tisza, Petreşti).

[56] LUCA, PINTER, GEORGESCU 2003, 183, Nr. 194.1.

[57] BALTAG, AMLACHER 1994, 176, Nr. 9, Taf. XCI.2-6, Taf. XCII.1-6; LAZĂR 1995, 48, Nr. V.2. Daia, B.

[58] BALTAG, AMLACHER 1994, 188, Nr. 33, Taf. CXVII.3,5; LAZĂR 1995, 50, Nr. V.3. Şaeş, F.

[59] BALTAG, AMLACHER 1994, 187, Nr. 29; LAZĂR 1995, 49-50, Nr. V.3. Şaeş, C.

[60] BALTAG, AMLACHER 1994, 185.

[61] LAZĂR 1995, 238, Nr. LXXVII.6. Şoromiclea, A. „Ferma Şoromiclea“ (mehrschichtige Siedlung mit Petreşti Kultur, Coţofeni Kultur und Römerzeit).

[62] LAZĂR 1995, 47, Nr. V.1. Apold, B., Taf. LV.1-3

[63] LUCA, PINTER, GEORGESCU 2003, 236 Nr. 249.1.

[64] Siehe die Literaturverweise bei LAZĂR 1995 und LUCA, PINTER, GEORGESCU 2003.

Baltag und Amlacher 1988[65] genannt wurden, ist keiner davon durch I. Paul in seinen Katalog der Fundorte der Petreşti Kultur aufgenommen worden[66]. Somit muß diese Zuordnung insgesamt unsicher bleiben.

Auf Grund der fehlenden Bemalung und der durchlochten Knubben wurde auch das eher unspezifische Material von Schäßburg „Weinberg" („Dealul Viilor") als wahrscheinlich zur Tiszapolgár Kultur zugehörig angesehen[67]. Das geschah auf Grund der Verbreitung, wie sie bei Maxim dargestellt ist, und die bis nach Ostsiebenbürgen reicht[68]. Etwas jünger wäre ein Gefäß aus Kreisch (Criş), das als Bodrogkeresztúr/„Decea Mureşului" bezeichnet wird[69].

In dem Arbeitsgebiet ist, nach dem insgesamt als unbefriedigend zu bezeichnenden Forschungs- und Publikationsstand zu urteilen, mit eine zeitlichen Abfolge von Starčevo-Criş, (Bandkeramik), Petreşti (zeitgleich dazu wahrscheinlich auch Tiszapolgár Funde) und Bodrogkeresztúr/„Decea Mureşului" zu rechnen. Vermutlich können auch Funde der Precucuteni und Ariuşd-Cucuteni-Tripolje Kultur, deren Hauptverbreitung wenig weiter östlich beginnt[70], bis in dieses Gebiet streuen.

Die schweren Kupfergeräte, die hier vorgelegt werden, können demnach chronologisch drei Horizonten und ihren entsprechenden Kulturen zugeordnet werden:

1. Tiszapolgár/Petreşti/Cucuteni A/Gumelniţa A1-2-B1 (Hortfund von Hesseldorf, Einzelfunde einer Hammeraxt und eines massiven Beiles vom Typ Gumelniţa, beide vermutlich aus der Umgebund von Schäßburg),

2. Bodrogkeresztúr/Cucuteni AB-B (kreuzschneidige Axt-Hacken vom Typ Jászladány, verschiedene Varianten, in den Horten von Werd und Alzen, sowie Einzelfunde aus Hondorf und Schmiegen),

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65 BALTAG, AMLACHER 1988.

66 PAUL 1992.

67 BOROFFKA, BOROFFKA 2006, 575-576, Abb. 1074, 1-9.

68 MAXIM 1999, 119-124. Obwohl die Tiszapolgár Kultur eher weiter westlich verbreitet ist, ordnete bereits Székely (SZÉKELY 1964, 124) einige Funde aus Reci in Südostsiebenbürgen dieser Kultur zu.

69 SZÉKELY 1964, 125, 126 Abb. 5 (Karte); LAZĂR 1995, 115 Nr. XXVIII.2. Criş, A.; LUCA 1999, 55, Nr. 4.

70 Siehe etwa MAXIM 1999 (30-62 – Starčevo-Criş, 67-69 – Bandkeramik, 98-9100 – Precucuteni, 100-112 – Petreşti, 112-119 – Cucuteni-Ariuşd, 119-124 – Tiszapolgár, 124-127 – Bodrogkeresztúr mit Scheibenhenkeln und Decea Mureşului). Bei Maxim überlappen sich die angegebenen Verbreitungsgebiete teilweise, das Vorkommen verschiedener gleichzeitiger Kulturen innerhalb eines Gebietes ist aber durchaus möglich. Am nützlichsten dürften die Chronologien bei MANTU, DUMITROAIA, TSARAVOPOULOS 1997 (besonders 99 Chronology table – hier auch eine Karte mit den [damals] ^{14}C-datierten Fundorten – 295 Abb. 33) und MANTU 1998 (besonders Abb. 51, sowie die Verbeitungskarte S. 36-37) sein. Zu Petreşti siehe auch PAUL 1992 und zu Bodrogkeresztúr LUCA 1999.

3. Horodiştea-Folteşti I Kultur/Glina III/Schneckenberg (Flachbeile von Schäßburg „Wietenberg" und aus Werd, Randleistenbeil aus Großalisch).

Während Funde der Tiszapolgár und Petreşti Kultur in dem Gebiet bekannt sind, sei nochmals betont, daß in den Fundorten, die der Petreşti Kultur zugeschrieben werden die charakteristische Bemalung in auffälliger Weise fehlt. Somit erscheint, beim derzeitigen Forschungsstand, eine definitive Zuordnung zu einer der beiden Kulturen voreilig. Überraschend ist das massive Beil vom Typ Gumelniţa, da diese Form bisher in der typischen Ausformung nur südlich der Karpaten, im eigentlichen Verbreitungsgebiet der Gumelniţa Kultur, bekannt war.

Für den zweiten Horizont mit kupfernem Schwergerät stehen die Hortfunde von Alzen, und Werd, sowie Einzelfunde aus Hondorf und Schmiegen. Sie können ohne Probleme mit der Anwesenheit der Bodrogkeresztúr Kultur und der verwandten Phänomene (Scheibenhenkel und Decea Mureşului) in Verbindung gebracht werden.

Die jüngsten Objekte (Flachbeile von Schäßburg „Wietenberg" und Werd, Randleistenbeil aus Großalisch) können überhaupt nur typologisch grob eingeordnet werden. Weder die Horodiştea-Folteşti I Kultur, die eher östlich der Karpaten zu lokalisieren ist, noch die Glina III Kultur, südlich der Karpaten verbreitet, reichen bis in das hier behandelte Gebiet. Zeitgleiche Funde der Schneckenberg Kultur sind bisher aus dem weiteren Umfeld von Schäßburg/Sighişoara nicht belegt. Auf Grund der eher unsicheren Datierung, könnte es sich daher bei diesen Objekten tatsächlich um bronzezeitliche Funde handeln, die dann am ehesten im Zusammenhang mit der Wietenberg Kultur stünden.

Als Fazit kann bemerkt werden, daß das weitere Umfeld von Schäßburg für Neolithikum und Kupferzeit leider noch sehr unzureichend erforscht ist, zugleich aber ein reiches Potenzial bietet - auch um das Verhältnis weiter verbreiteter Kulturen zueinander zu untersuchen.

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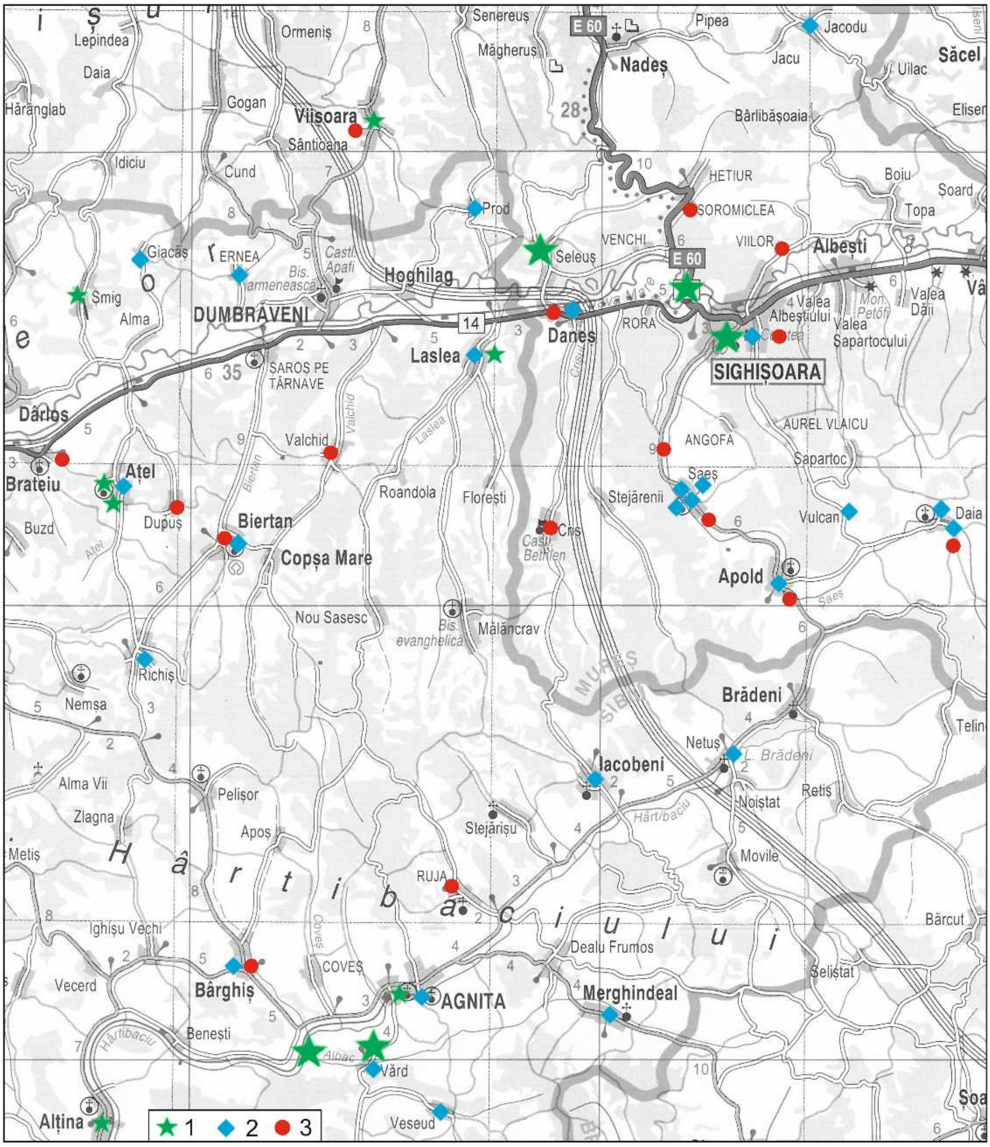

Abb. 1. Neolithische und kupferzeitliche Funde und Fundorte in der Umgebung von Schäßburg.
1. Metallfunde (*hier publizierte Funde mit großem Symbol*): Agnita, Alţâna, Aţel, Seleuş [Seleuşul Mare], Sighişoara „Wietenberg", Umgebung Sighişoara, Vărd - Einzelfund, Vărd - Hortfund III, Viişoara.
2. Steinäxte/-beile: Agnita, Apold, Aţel, Bârghiş, Biertan, Daia, Daia „Heinzel", Daneş, Ernea, Giacăş, Iacobeni, Jacodu, Laslea, Merghindeal, Netuş, Prod, Richiş, Sighişoara, Şaeş „Gezatzkel", Şaeş „Râpa dracului", Şaeş „Romrich", Şaeş „Vii/Weingarten", Vărd „Towern", Veşeud, Veşeud „Herrengrund", Vulcan, 3. Neolithische/kupferzeitliche Keramik: Apold „După Grădini", Bârghiş, Biertan, Bratei, Criş, Daia „Heinzel", Daneş, Dupuş, Ruja, Şaeş „La Ferma nr. 7", Şaeş „La Peri", Sighişoara „Dealul Viilor", Sighişoara „Valea Dracului - La Podul de beton", Şoromiclea „Ferma Şoromiclea", Valchid, Viişoara.

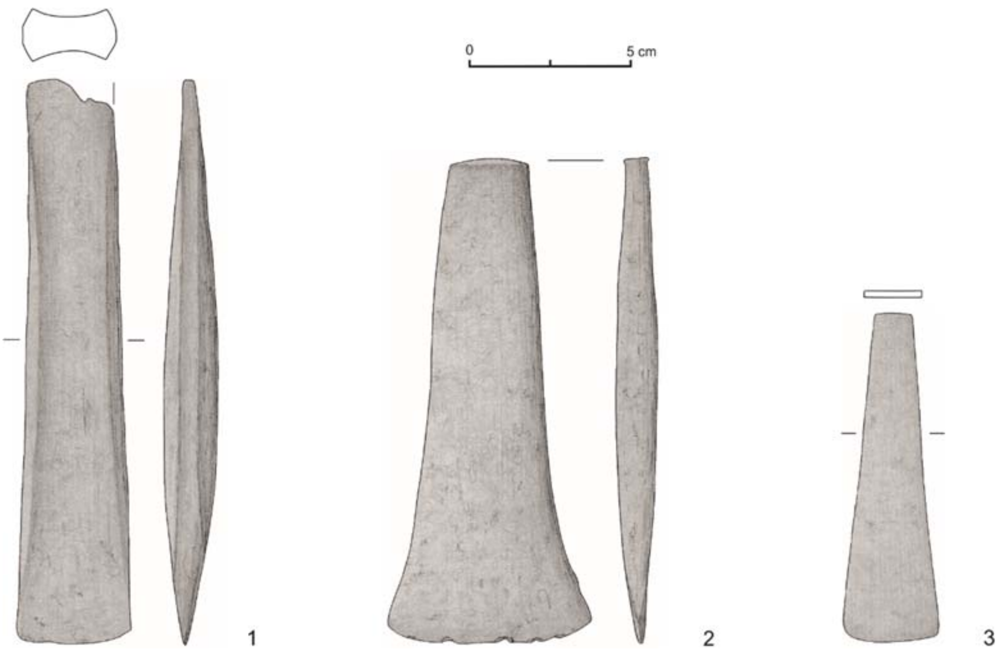

Abb. 2. Kupferbeile und -äxte aus dem Museum Schäßburg.
1. Großalisch (Seleuş / Seleuşul Mare), Inv. Nr. 2501, 2. Schäßburg (Sighişoara) „Wietenberg“ (?), Inv. Nr. I 40, 3. Werd (Vărd), Einzelfund, Inv. Nr. 2564.

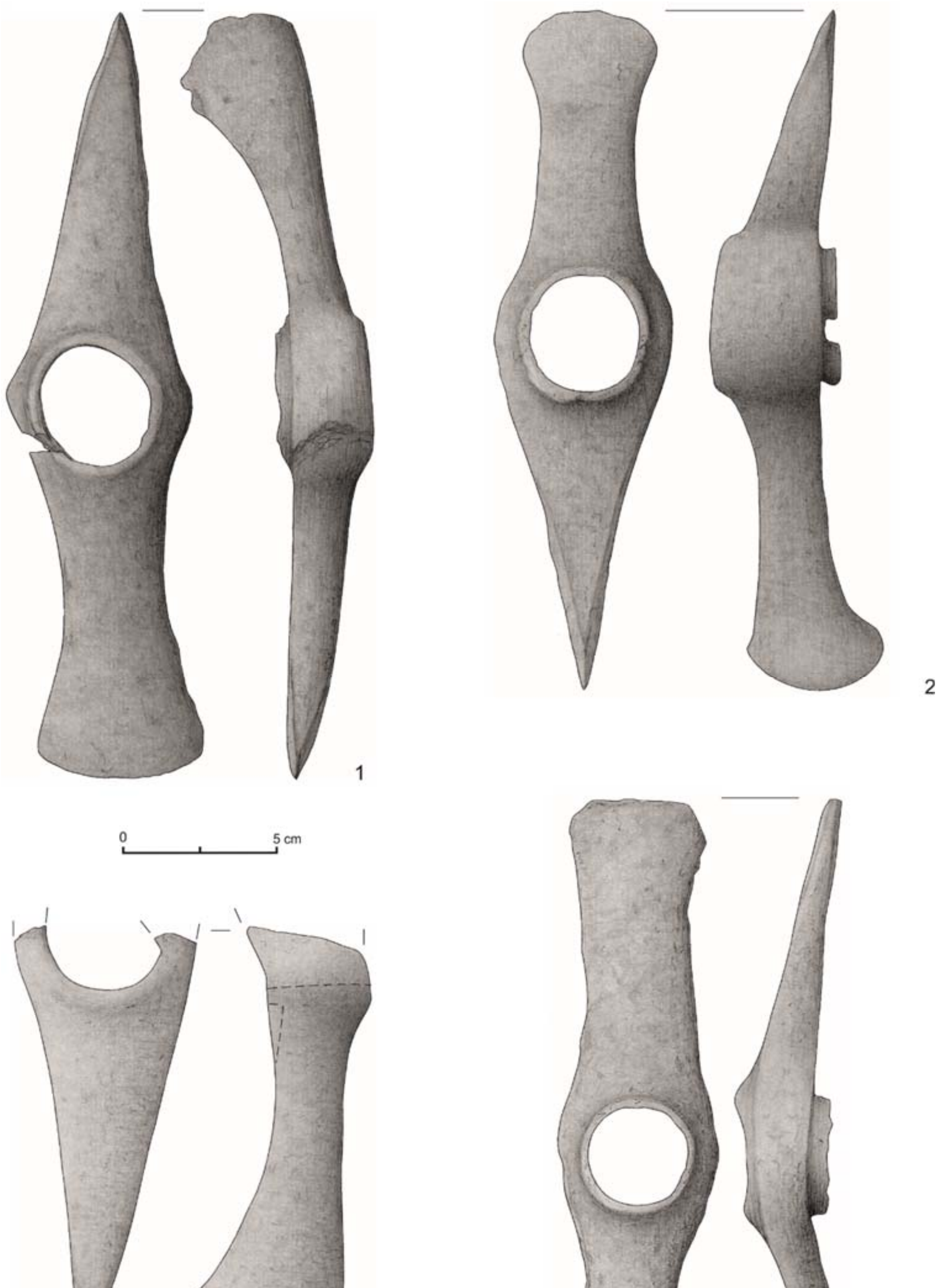

Abb. 3. Kupferbeile und -äxte aus dem Museum Schäßburg, Werd (Vărd), Hortfund III, „Schower Nak“ Depotfund 1876. 1. Inv. Nr. 2509, 2. Inv. Nr. 2511, 3. Inv. Nr. 2512, 4. Inv. Nr. 2510.

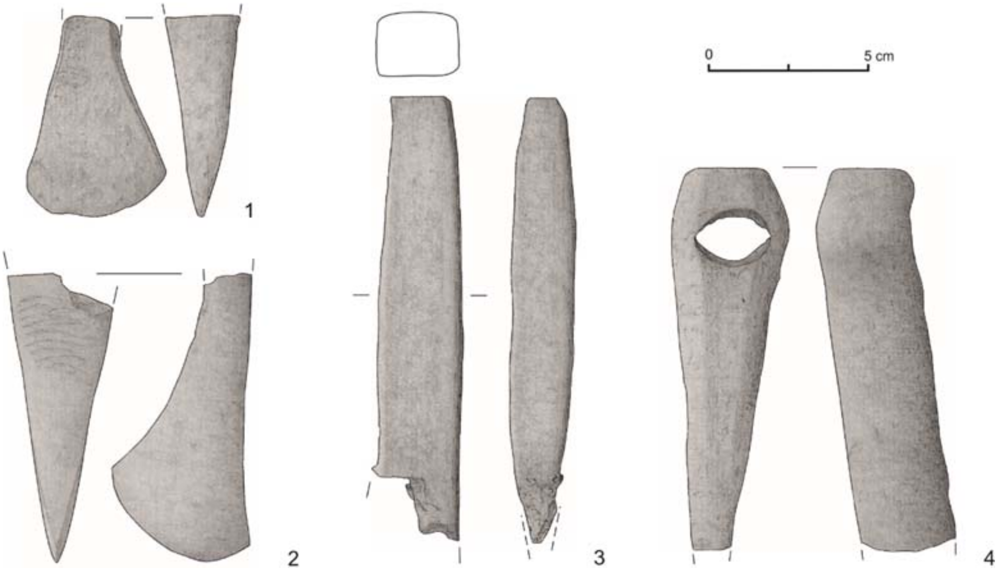

Abb. 4. Kupferbeile und -äxte aus dem Museum Schäßburg, ohne Fundort/Umgebung Schäßburg (Sighişoara). 1. Inv. Nr. 167, 2. Inv. Nr. 2513, 3. Inv. Nr. 2500, 4. Inv. Nr. 2528.

A FIBULA OF CELTIC ORIGIN IN THE COLLECTION OF ARCHEOLOGY INSTITUTE IN IAȘI[1]

Ștefan HONCU[2], Lucian MUNTEANU[3]

Abstract: In the collection of the Institute of Archeology in Iasi there is an ancient fibula, of which we know only that it was discovered on the territory of Moldova. Fibula belongs to the "Early Dux" type of Celtic origin, which has a wide spread in the Carpathian basin, being certified in the Danube area. By analogy with the similar specimens found in different contexts, in this area, we can admit its chronological framing, in general, between the 4th and 3rd centuries BC. Such fibulae were discovered mainly in the northern and central-eastern parts of Moldova. They belong to sites that date before the arrival of the Bastarnae in this area.

Keywords: *Celtic fibula, "Early Dux" type, Institute of Archaeology in Iași, Moldavia, LT B_2.*

The collections of Institute of Archeology in Iasi include a previously unknown ancient fibula, about which is known only that it was found on the territory of Moldova. Unfortunately, there is no additional information about the context or time of discovery. The piece is made of bronze and is very well preserved. It has a spring composed of six coils arranged symmetrically, three on each side of the body, joined by an outer chord. The fibula body is arched, with eight knobs. The pin-mount is short, decorated with small slanted lines. The over turned foot is decorated with a sphere and is not attached to the spring.

The technical data[4] of the piece are the following: L: 4.05 cm; w (spring): 1.4 cm; w (coil): 1 cm; mass: 4.47 g. Currently, it does not have an inventory number and its recording with the Institute's collection is in progress.

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[4] The following abbreviations were used to present the technical data of the finds: L - length; w - width.

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The fibula pertains to the "Early Dux" type[5], of Celtic origin, which was widespread in the Carpathian basin, being certified in the Danubian area of the former Yugoslavia[6], as well as on the territory of Hungary[7] and Slovakia. The earliest-dated finds in our region are from the end of La Tène B_1, but these appear particularly in funerary features of La Tène B_{2a}[8] sub-phase (as early as the end of 4th century – the first decades of 3rd century BC).

In the north of Lower Danube area as well, such artifacts have a wide spread[9], being frequently encountered in Celtic tombs of the early La Tène era.[10] Most of the known specimens originate in the intra-Carpathian area of Romania[11]. Thus, a piece of this category was discovered in Peţelca (Alba County), dated by the author of the report in La Tène B_2 and belonging to type 58 of Hodson's classification[12]. Found in the cemetery of Pișcolț (Satu Mare County), a similar fibula was included in the A3 type (with several variants), dated at the end of La Tène B_1 sub-phase, however, most of the finds of this type are within La Tène B_2 sub-phase contexts[13]. Four bronze fibulae are known from the region of Bistrița, found in the cemetery of Fântânele – "La Gâța"[14]. The author of the report hypothesizes that this is also the finding place of a fibula pin with part of its spring, which may be included in type II of his own classification. The fibulae under discussion were assigned to La Tène B_2[15]. Several such specimens are known in the Celtic cemetery of Ciumeşti[16].

On the territory of Banat, such a fibula was found in Foeni (Timiș County)[17], being included by the author in type 2 of Zirra's classification[18]. Unfortunately, no information

[5] Recently, Celtic fibulae have been treated in a study by Slovak scholar J. Bujna. Our fibula falls into the group BF–A2–B (BUJNA 2003).

[6] BOŽIČ 1981: 326-327, T1/16, T6/9, 10, T11/2, 3.

[7] HORVÁTH *et al.* 1987: 36, M4a, Pl. I/3a-b, Pl. X/1a-b, 65, M1, Pl. I/2, 74, M3, Pl. IV/6, 75, M1, Pl. VI/3, 105, M12, Pl. XIX/1-4, 119, M53, Pl. XXVIII/4, 200, Pl. XVI/1, 201, Pl. XVIII/6, 5, 233, M5, Pl. IV/9-10; 234 (random find, cat. nr. 2, Pl. VI/4). For the chronology of the La Tène period discoveries in Gyuma, see: MARÁZ 1977: 49-50, Fig. 5/6-6a-13-13a.

[8] BUJNA 2003: 47-48, Fig. 5, 7, Group BF-A2-B.

[9] MĂNDESCU 2000: 53-54, Type I 8; the author recorded 41 such fibulae (see Map 5).

[10] VAIDA 2005: 17.

[11] VAIDA 2005: 17. For details regarding the spread of Celtic La Tène civilization in Romania, see ZIRRA 1971.

[12] CRIȘAN 1973: 51-52, Fig. 6/1-2, Fig. 7/1-2; FERENCZ 2007: 108, Pl. LVI/1.

[13] NÉMETI 1988: 65, M 180, Fig. 9/1, M 202, Fig. 10/1.

[14] VAIDA 2005: 17, Pl. 1/4-7.

[15] VAIDA 2005: 17, Pl. 1/8.

[16] ZIRRA 1967: 55, Fig. 28 (with several variants).

[17] GEORGESCU 2013: 75, Pl. 2.

[18] ZIRRA 1991: 181; GEORGESCU 2013: 76.

is known about its finding context[19]. Recent observations on the Celtic discoveries in this area have been made by A. Rustoiu[20].

South of the Carpathians, a similar fibula to the above was found in Sărata-Monteoru (Buzău County). This piece has the foot missing (probably broken in ancient times)[21] ,and it was discovered together with a bronze bracelet and pottery dated in the 3rd century BC[22]. The level of habitation in the area is sporadic, poor and of short duration, being attributed to the second Iron Age. In the Getic cemetery of Zimnicea, in grave 73[23], was uncovered a bronze fibula of the same type, but pertaining to a slightly different variant (with four spirals, two on each side of the body). The grave goods included also a funerary urn, a fragment of necklace (?) and an iron bar[24].

In the eastern area of the Carpathians, relatively few such finds are known, although Celtic artifacts are present in this area. Three fibulae belonging to this type, of which only one is similar to our specimen,[25] were found in the Getic fortress of Poiana (Galaţi County), in the context of its fourth stage, the second phase of the settlement. The fibula was dated in the 3rd century BC[26].

Other similar discoveries are the ones of Costâna – "Vatra satului" (Suceava County) - a 3rd century BC fibula, and of Băiceni – "Cetăţuie" (Iaşi County) - three fibulae of the type under scrutiny[27]. As a result of the excavations carried out in this site, between 1909-1910 and 1961-1970, other artifacts of Celtic origin, such as potsherds and zoomorphic figures, were discovered[28].

Three similar fibulae, of "Early Dux" type, two La Tène B_2 and one La Tène C_1, were uncovered in the Getic settlement of Buneşti (Vaslui County)[29]. Along with these, other Celtic materials have also been found: a sword-sheath chape and a few fragmentary pieces of bronze necklaces[30]. These fibulae were also described in another study, which only

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[19] GEORGESCU 2013: 76.

[20] RUSTOIU 2012: 361-362, Pl. 7/1-2 (in Cherestur, Timiş county – bronze fibula, found in a cremation grave dated in the beginning of LT B_2; the grave goods includes two bronze bracelets, three iron loops, a bi-conical bowl and a mug, both wheel-thrown); 362, Pl. 10 / 1-3 (in Kostolać-Pećine – early Celtic discoveries in a cremation grave, M1, in which, along with other artifacts, three fibulae dated in LT B_2 were found).

[21] NESTOR, ZAHARIA 1955: 506, Fig. 8/2.

[22] NESTOR, ZAHARIA 1955: 506; see also Fig. 8/1, 3.

[23] ALEXANDRESCU 1980: 20 (Z69C10M73), Fig. 49/4.

[24] ALEXANDRESCU 1980: 28.

[25] TEODOR, ŢAU 1996: 61, type II, cat. no. 26, Fig. 3/3.

[26] TEODOR, ŢAU 1996: 95, cat. no. 36.

[27] TEODOR 1988: 40, 47, Fig. 4/8 (Băiceni – „Cetăţuie") and 40, 49, Fig. 5/1 (Costâna).

[28] TEODOR 1988: 47, cat. no. 1.

[29] BAZARCIUC 1981: 539.

[30] BAZARCIUC 1981: 539.

mentions other seven specimens pertaining to several variants of this type[31]. A random discovery, dated in the 4th - 3rd century BC, originates in the territory of Ichimeni (Botoșani County)[32]. In Glăvăneşti (Iaşi County), a fragment of a La Tène B_2 fibula was found in the inventory of a sunken feature, together with Getic materials and Celtic ceramic fragments[33]. The field survey in Trușești – "Țuguieta" (Botoșani County)[34], in the proximity of the Neolithic fortified settlement, uncovered another fibula of this type. The archaeological excavation in the site of "Cuha" uncovered ceramic fragments decorated with graphite, regarded as to be of Celtic origin[35].

In the area that is of interest to this paper, East of the Carpathians, the fibulae of this type are associated, in most cases, with Celtic vestiges of a different nature (pottery, weapons, jewelery, etc.). Another category of artefacts, which present a series of features specific to coinage of the same ethnic origin (various overstriking and cuts), are the "Huși-Vovriești" monetary issues[36]. In some cases, these coins appear together with "early Dux" type fibulae, even in the same archaeological contexts (in Buneşti[37] and Poiana[38]). One should point out that in many situations the areas of concentration of the two types of artefacts seem to adjoin or even overlap.[39] Such an association[40], which must be confirmed by future discoveries, could prove, with new arguments, the role of the Celts in the issuance or circulation of coins of "Huşi-Vovrieşti" coinage, on the present-day territory of Moldavia, since an even earlier period.

The historiographical debate on the role of the Celts in the Eastern Carpathian territory in the last three centuries before the Christian era is running one. Although we believe that this approach does not yet benefit from consistent, up-to-date bibliographic references[41], it is not our intention to further the discussion here. At the present stage of

31 BAZARCIUC 1983: 267, Fig. 20/3-5.

32 TEODOR 1988: 40, 49, cat. no. 23.

33 TEODOR 1988: 49.

34 PETRESCU-DÎMBOVIȚA *et. al.* 1954: 27, Fig. 20.

35 TEODOR 1988: 50, cat. 42 a-b. It argues for a Celtic settlement on this site (MĂNDESCU 2010: 102).

36 For the attribution of this type of coinage to the Eastern Celts (alone, or latter as participants in a "Celtic-Bastarnic coalition"), see, among others: PINK 1974: 91-100; PREDA 1973: 126-131; MIHAILESCU-BÎRLIBA 1990: 71-74; MUNTEANU, CHIRIAC 2016: 552-553.

37 MUNTEANU, CHIRIAC 2016: 555 (and note 96); 563 (with Bibliography).

38 MUNTEANU, CHIRIAC 2016: 555 (and note 97); 564 (with Bibliography).

39 One should compare the "Early Dux" type of Celtic fibulae on the territory of Moldavia (Romania) (Pl. II), at the end of the text, with the updated repertoire of numismatic finds of Huși-Vovriești type, isolated or in hoards (MUNTEANU, CHIRIAC 2016: 561-562, Annex I; 581, Pl. IV).

40 In the literature, it was remarked upon and discussed the exclusive association of "Huși-Vovriești" coinage with the Thracian-types fibulae, with the S-bent foot ("baroque") (more recently, see MĂNDESCU 2011: 211-213 and SPÂNU 2014: 70-72, 78-79, 82-85, 87-91).

41 See, particularly, the synthesis studies of Mrs. Silvia Teodor (TEODOR 1988, as well as TEODOR 1999: 101-116 and Figures 47, 63, 64). We are convinced that, compared to other historical

publishing and research into the Celtic finds on the territory of Moldavia, it is difficult to assess whether there are arguments to support the real inhabitation of this population, even sporadic (migration of people), in this area, or we are dealing only with different categories of "imports" of Celtic origin (object mobility)[42].

Finding appropriate responses is hampered by the limited number of published artifacts of this kind, which are often left forgotten in museum storage rooms or, in better cases, are only presented in a summary manner without adequate illustrations, which makes their verification more difficult[43]. Exclusively on the basis of the finds known to us, one is tempted to admit that during this period one can argue for the actual presence, even a short term one, of Celtic populations[44], which probably coexisted with the natives. Of course, many of these finds could be "imports", mostly iron artifacts[45], which contributed to the *La Tène-ization* of the East Carpathian space.

Returning to our "Early Dux" fibula, we are only certain that originates, certainly, in the territory of Moldavia. In the absence of practical, verifiable information, one may only assume that it could have been discovered by field surveys carried out by members of the Archeology Institute in Iaşi or by collaborators of the Institute between 1951 and 1961[46]. For various reasons, probably related to the political context of the era, it was not included in the Collections of the Institute, nor was it mentioned in the literature[47]. By

provinces in the northern part of the Danube, the research of Celts in historical Moldavia is only at its beginning.

[42] TEODOR 1988; TEODOR 1999: 101-116.

[43] See also the case of the "Pauken" type fibulae, found in the Getic fortification of Răcătău, but which were erroneously identified and published (we would like to thank dr. Aurel Rustoiu, who pointed out this situation on the basis of personal observations) (see CĂPITANU 1984: 66, type VI - fibula with profiled body and the simple body, dated to the 1st century BC - the first half of the next century, 70, cat 46, fig 9/9 – with "an embedded amber pearl", representing in fact a "Pauken" type fibula which generally dates in the second half of the 4th century BC and in the first quarter or the first half of the next. Two other "Pauken" type fibulae were discovered in the Getic fortified settlement of Poiana (TEODOR, ŢAU 1996: 61, type II, Fig. 3 / 5-5; 91, cat. 28-29), which finds confirm this dating

[44] In Zvoriştea (Suceava County), it is admitted the existence of a Celtic settlement (?), dated between the middle and the end of 3rd century BC, a hypothesis based on the abundance of Celtic pottery uncovered here (MĂNDESCU 2010: 101 &sq.).

[45] See also Celtic-type hoards dated in a later period, of Negri (Bacău County), probably in connection with the Getic settlement located in territory of the same commune (ANTONESCU 1968), Oniceni (Neamţ County) (TEODOR 1983) or Lozna (Botoşani County) (TEODOR 1980).

[46] About the magnitude of these archaeological investigations, see ZAHARIA, PETRESCU–DÎMBOVIŢA, ZAHARIA 1970: 17-19.

[47] Professor Nicolae Zaharia, who was pursued and investigated by the Securitate, provides us with some information on the official treatment of archaeological material that did not correspond to the Party line. After a conference held by R. Vulpe in Iaşi on 20.06.1977, agent Cocor informed the Securitate that he "met with N. Zaharia at Professor Radu Vulpe's conferences held in the M. Eminescu University Library and in the local University, in Amphitheater II 7 [...]. Asked whether they were Dacians in Moldova, N. Zaharia said that in this province, the Dacians were free, namely the Carpians. Most inhabitants of these Moldavian regions are of Celtic origin, and he said that

analogy with the similar specimens found in different contexts, in this region, one can advance a dating, in general, in the 4th - 3rd century BC. Such fibulae are found in contexts dated in the second half of 4th and in the first half of 5th century BC (LT B_2), within sites antedating the Bastarnic horizon,[48] grouped mainly in the northern and central-eastern parts of Moldavia.

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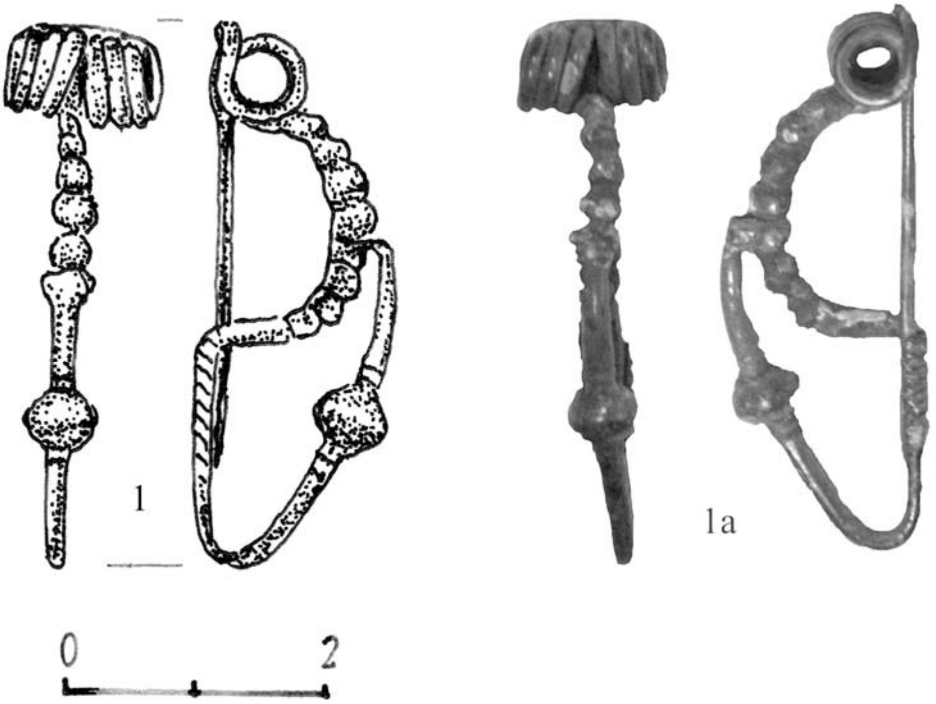
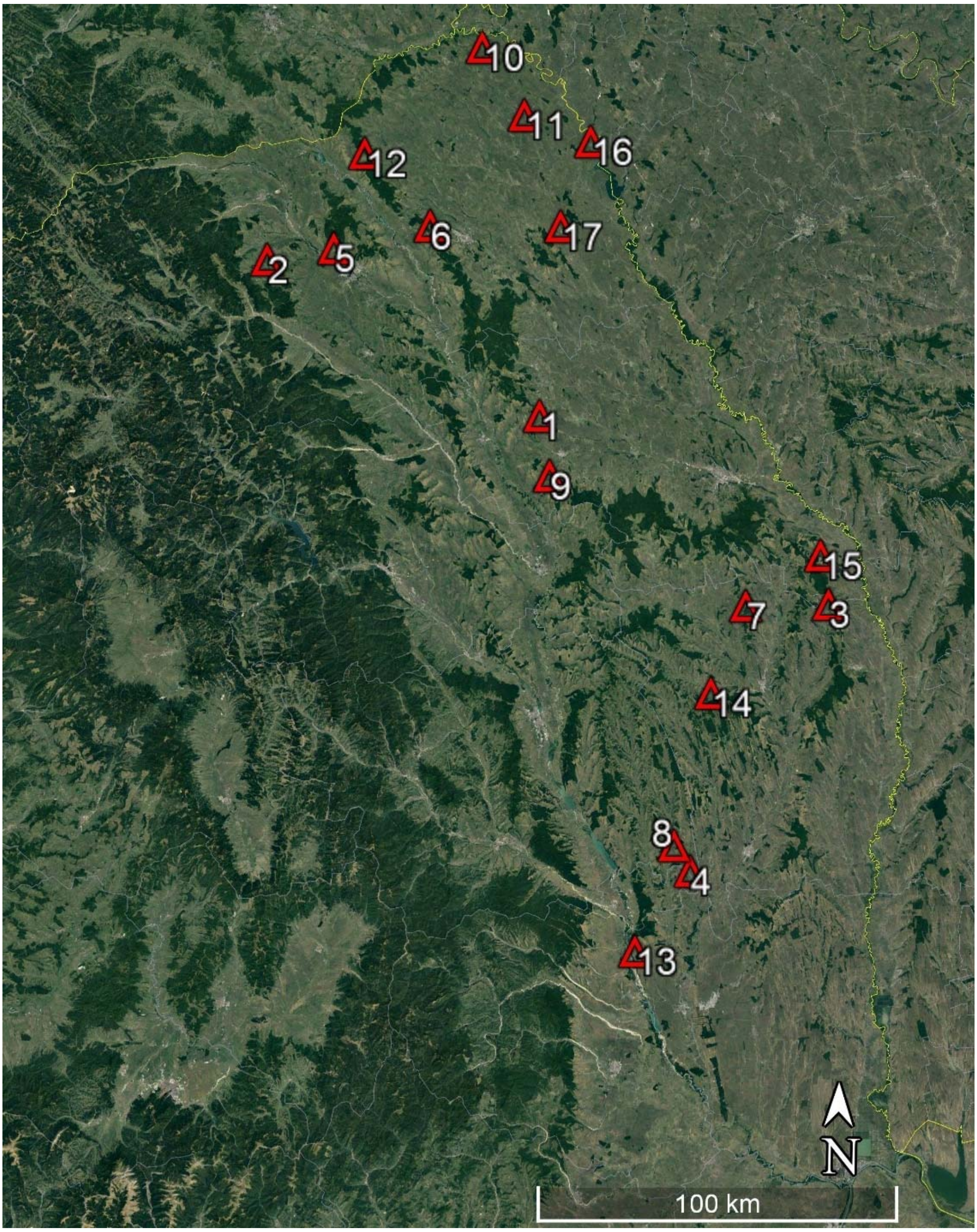


Pl. I. 1-1a. Celtic *fibula* uncovered in Moldavia.



Pl. II. Map of the finds of "Early Dux" type on the territory of Moldavia (Romania):
1. Băiceni, 2. Botoșana, 3. Bunești–Averești, 4. Căbești, 5. Costâna, 6. Cucorăni, 7. Dănești, 8. Glăvănești, 9. Hăbășești, 10. Horodiștea, 11. Ichimeni, 12. Lozna–Hlibicioc, 13. Poiana, 14. Poienești, 15. Răducăneni, 16. Sadoveni, 17. Trușești.

THE GRECO-ROMAN MEDUSA AND HER NEOLITHIC ROOTS[1]

Miriam Robbins DEXTER[2]

Abstract: I examine the Greco-Roman Gorgon, Medusa, cross-culturally, through most of the significant Greek and Roman texts and iconography, in order to examine her origins as well as her multifaceted functions. I will show that Medusa is a compilation of Neolithic European, Semitic, and Indo-European mythology and iconography. Iconographically, two very different depictions coalesce in the Classical-Age Medusa: the Neolithic Goddess of birth, death, and regeneration, who is represented as bird, snake, or bird-snake hybrid; and the Near Eastern demon Humbaba whose severed head is, like Medusa's, used in an apotropaic manner. Medusa is ferocious but half of her blood is healing rather than destructive. Because she is often viewed as frightening in Indo-European cultures, this other side of her is often overlooked.
Keywords: *Medusa, Gorgon, bird, snake, Homer, Hesiod, Euripides, Ovid*

INTRODUCTION

The Greco-Roman Gorgon, Medusa, has roots in the Neolithic. It is possible that she was a nightmare figure; indeed, her first manifestation in Greek literature is in the Iliad of Homer; there, she is only a frightening head in the Underworld.

This article looks at Medusa, cross-culturally, through most of the significant texts and iconography, in order to examine her origins as well as her multifaceted functions. I will show that Medusa is a compilation of Neolithic European, Semitic, and Indo-European mythology and iconography. Iconographically, two very different depictions coalesce in the Classical-Age Medusa: the Neolithic Goddess of birth, death, and regeneration, who is represented as bird, snake, or bird-snake hybrid; and the Near Eastern demon Humbaba

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[1] This material was first presented at the conference "Female Mysteries of the Substratum" held in Rila, Bulgaria, June 2-13, 2004, and sponsored by the international Institute of Archaeomythology. The material was later published, in somewhat different form from this paper, in the *Journal of Feminist Studies in Religion*. (*JFSR* 26.1, 2010, 25–41) and in the anthology, *Revisioning Medusa: From Monster to Divine Wisdom*, edited by Trista Hendren and Glenys Livingstone. I also thank the UCLA Center for the Study of Women for their support.

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whose severed head is, like Medusa's, used in an apotropaic manner. Medusa is ferocious but, as we will see, she is a healer as well as a destroyer. Because she is often viewed as frightening in Indo-European cultures, this other side of her is often overlooked. With time, her persona changes into that of a sometimes frightening, sometimes beautiful mortal who likely has divine roots.

I prefer to let the texts speak for themselves, so I have translated most of the texts from ancient Greece and Rome in which Medusa appears. In them, the reader can perceive the characteristics of the Gorgon, and the changes to her depiction over time.

THE NAME OF MEDUSA

Philologically, the name Medusa means the "ruling one[3]". But by the time of the earliest Greek texts which contain myth, those of Homer, Medusa was not a ruler but a monster, associated with the land of Hades. In the poetry of Hesiod, Medusa became the only mortal among three Gorgon sisters. The adjective *gorgos* (γοργοὁς) means "terrible", "fierce", and "frightful". That is, she was considered to be monstrous. However, as we will learn from the Classical texts, it is important to see all facets of what male-centered cultures have labeled a "feminine monster". Medusa was viewed very ambivalently, and she was very deeply faceted.

TEXTS AND MYTHS

In order to discover Medusa's earliest textual meanings and symbols, and to understand the development of her character and iconography, I decided to translate her myths from the Greek and Latin texts, in chronological order. My translations are quite literal, so that the meanings of the texts can be as clear as possible. I begin with the earliest Greek literary texts, Homer's *Iliad* and *Odyssey*.

In the *Iliad*, dating to approximately 750 BC, Medusa is not named, but one finds here the first reference to a Gorgon. In this text, Athena puts on her aegis, on which are depicted, among others, Fear (Phobos), Strife (Eris), and

"…the Gorgon head of the terrible monster, terrible and fearful, a portent of aegis-holding Zeus[4]".

[3]This is the present participle of the Greek verb μεὁδω, "I rule"; Medusa, or Medousa, is spelled with a short -e- in Greek, as opposed to the long ē found in Mēdea.

[4] Homer, *Iliad* 5.741-742. Ca. 750 BC:
ἐν δέ τε Γοργείη κεφαλή δεινοῖ πελώρου,
δεινή τε σμερδνή τε, Διὸς τέρας αἰγιόχοιο.
Unless otherwise indicated, all translations in this article are by the author. Dating for all Classical authors follows the *Oxford Classical Dictionary*, Third Edition. (Oxford: University Press, 1996, 2000).

Here she is a bodiless head. There are no references to wings or snakes in Homer, but, just as on Athena's aegis, the Gorgon is paired with snakes on the shield of Agamemnon:

"And on it was put as a crown the Gorgon, with ferocious face [or: bushy-faced[5]], with dreadful glance, and about her were Terror and Flight. A shield-strap of silver was attached to it, and there also was coiled upon it a dark blue snake ...[6]".

In fact, examples of shields with Gorgon heads abound in Greek iconography. This may be a natural psychological function, using a fearsome head in order to frighten off the enemy. Elsewhere in the *Iliad*, Homer describes the Trojan hero Hector's eyes, using the Gorgon as metaphor: "Having Gorgon eyes or those of man-destroying Ares" (Homer, *Iliad* 8.349). Thus, her staring eyes play a role in her myth from her textual inception; Medusa's eye petrifies[7]. Her "evil" eye brings death.

Although the disembodied head of the Gorgon must have been depicted or mythologized by 750 BC, it is likely that the story of Medusa and Perseus was not known. There is no reference in the *Iliad* to Medusa's decapitation by Perseus, even though Perseus is mentioned twice[8]. Here, he already has mythology – he is son of Danaë, and an outstanding warrior. In Book 19, he even has a son of his own. But his name is not linked here with Medusa's. In the *Odyssey*, which dates to 750 BC as well, the Gorgon is not yet connected with Perseus. She is a fearsome creature who dwells in the Underworld. As Odysseus says,

"...pale [lit. 'yellow-green'] dread seized me, lest illustrious Persephone might send forth upon me, from the house of Hades, the head of the Gorgon, the terrible monster[9]".

By approximately 700 BC, we do find Medusa and Perseus connected in myth, in the *Theogony* of the poet Hesiod, who gives a catalogue of the genealogies of the Goddesses and Gods:

"And again, Ceto bore to Phorcys the fair-cheeked Graiae, sisters gray-haired from birth, whom indeed both the deathless gods and men who walk on earth call the Graiae, beautifully-robed Pemphredo, and saffron-robed Enyo, and the Gorgons who dwell on the other side of glorious Ocean in the most remote land, towards Night, where [live] the clear-voiced Hesperides, Sthenno, and Euryale, and Medusa, suffering miseries: she was mortal,

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[5] The Greek word is βλοσυρῶπις (*blosurōpis*). Autenrieth, ed. 1876 [1966]): 61.

[6] Homer, *Iliad*, 11.36-37:
τῇ δ' ἐπὶ μὲν Γοργὼ βλοσυρῶπις ἐστεφάνωτο δεινὸν δερκομένη, περὶ δὲ Δεῖμός τε Φόβος τε.
τῆς δ' ἐξ ἀργύρεος τελαμὼν ἦν· αὐτὰρ ἐπ᾽ αὐτοῦ κυάνεος ἐλέλικτο δράκων…

[7] Cf. the French méduser, "to petrify".

[8] Homer, *Iliad* 14.320, 19.123.

[9] Homer, *Odyssey* 11.633-35:
ἐμὲ δὲ χλωρὸν δέος ᾕρει, μή μοι Γοργείην κεφαλὴν δεινοῖο πελώρου ἐξ Ἀίδεω πέμψειεν ἀγαυὴ Περσεφόνεια.

but the two [sisters] were immortal and ageless. With this woman [that is, Medusa] lay the dark-blue-haired[10] one [Poseidon] in a soft meadow[11] in the midst of spring flowers. Now, when Perseus cut off her head, both great Chrysaor and the horse, Pegasus, leapt forth"[12].

Even early on in the texts, Medusa is attractive enough for the god Poseidon to want to sleep with her. In fact, it is possible that Medusa was never portrayed as uniformly grotesque. She was portrayed early on in both text and iconography as a beautiful young woman[13]. Although Medusa is not yet snaky-haired in the *Theogony*, in the Shield of Herakles, which was attributed to Hesiod (ca. 700-500 BC)[14], Perseus decapitates Medusa and flees, chased by Medusa's Gorgon sisters:

"And after him the Gorgons went, monstrous and unspeakable…and from their girdles two serpents hung down, their heads arched"[15].

By the time of the Greek poet Pindar, ca. 500 BC, serpents were firmly affixed to the Gorgons' heads, in myth as well as in art. Pindar worked rich mythological texts into his odes celebrating victories at the Olympian, Pythian, Nemean, and Isthmian Games. He says that

"Pallas Athena invented the baleful funeral song of the bold Gorgons, weaving it together. This [song], poured forth with direful toil, Perseus heard, from beneath the terrible serpent-heads [of] the maidens, when he destroyed the third sister"[16].

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[10] Hesiod, as well as Homer, used the Greek epithet Κυανοχαίτης (Kuanochaites) to mean 'dark blue-maned', as of a horse. See LIDDELL and SCOTT 1856 [1961]: 1004. Since Poseidon was known to have taken the shape of a stallion – for example, when he raped Demeter – his is an apt term for him.

[11] Greek ἐν μαλακῷ λειμῶνι (en malako leimoni). This was also a term used for a woman's genital area. See LIDDELL and SCOTT 1856 [1961]: 1035.

[12] Hesiod, *Theogony* 270-81:
Φόρκυϊ δ' αὖ Κητὼ Γραίας τέκε καλλιπαρῄους ἐκ γενετῆς πολιάς, τὰς δὴ Γραίας καλέουσιν ἀθανατοί τε θεοὶ χαμαὶ ἐρχόμενοί τ' ἄνθρωποί, Πεμφρηδώ τ' ἐύπεπλον Ἐνυώ τε κροκόπεπλον, Γοργούς θ', αἳ ναίουσι πέρην κλυτοῦ Ὠκεανοῖο ἐσχατιῇ πρὸς Νυκτός, ἵν' Ἑσπερίδες λιγύφωνοι, Σθεννώ τ' Εὐρυάλη τε Μέδουσά τε λυγρὰ παθοῦσα. ἣ μὲν ἔην θνητή, αἳ δ' ἀθάνατοι καὶ ἀγήρῳ, αἱ δύο· τῇ δὲ μιῇ παρελέξατο Κυανοχαίτης ἐν μαλακῷ λειμῶνι καὶ ἄνθεσιν εἰαρινοῖσιν. τῆς δ' ὅτη δὴ Περσεὺς κεφαλὴν ἀπεδειροτόμησεν, ἔκθορε Χρυσάωρ τε μέγας καὶ Πήγασος ἵππος.

[13] GERSHONSON 1989: 373-390 demonstrates that throughout Greco-Roman texts, Medusa was portrayed as beautiful as well as ugly. Gershonson cites Hesiod, *Theogony* 278-279 and Ovid, *Metamorphoses* 4.794-861, and I would add the *Odes* of Pindar (see below). In fact, I believe that the Gorgon is the same as the ugly old woman who is a shape-changer in Old Irish myth. In Old Irish, she is the Goddess Sovereignty – Flaith – who is alternatively a beautiful young woman and an ugly crone. See DEXTER AND GOODE 2002: 65.

[14] This traditional attribution of the Shield of Herakles to Hesiod has been challenged. See GARBER and VICKERS 2003: 11.

[15] Hesiod, *Shield of Herakles*, 229-235.
ταὶ δὲ μετ' αὐτὸν Γοργόνες ἄπλητοί τε καὶ οὐ φαταὶ ἐρρώοντο ἱέμεναι μαπέειν… …ἐπὶ δὲ ζώνησι δράκοντε δοιὼ ἀπῃωρεῦντ' ἐπικυρτώοντε κάρηνα λίχμαζον δ' ἄρα τώ γε…

[16] Pindar, *Pythia* 12.7-12:
Παλλὰς ἐφεῦρε θρασειᾶν Γοργόνων οὔλιον θρῆνον διαπλέξαισ' Ἀθάνα· τὸν παρθενίοις ὑπό τ'

Indeed, the sight of the Medusa-head will turn people – men and women, and, as later texts tell us, even animals – to stone:

"[The son of Danaë] slew the Gorgon, and he returned bearing her head, dappled with the locks of serpents, [and bearing] a stony death for the islanders [the people of Seriphus]"[17].

Medusa is terrifying and deadly; but she is beautiful as well as frightening when Pindar describes how

"... the head of the beautiful-cheeked Medusa was carried off by the son of Danaë, who, we assert, came into being because of a shower of gold"[18].

Pindar also tells us of Medusa's offspring, Pegasus. Here too Medusa is closely connected with snakes:

"Pegasus, the son of the snaky Gorgon...."[19].

The Greek historian, Herodotus, (ca. 560-420 BC), connects Perseus and the Gorgon, and places them in Libya:

"[The people of Chemmis in Egypt] told too how [Perseus] came to Egypt for the reason which the Greeks recount – [that is,] to bring the head of the Gorgon from Libya...."[20].

In the Classical era in which the Greek tragedian Euripides (ca. 480-407/6 BC) wrote his plays, Gorgon-antefixes were affixed to walls. These Gorgon heads were apotropaic: they would have protected the temple and other buildings in the city. In one Euripides' plays, Ion, the priest of Phoebus Apollo, tells us that on the walls of the temple,

"The Gorgons are all around"[21].

Here too, Medusa is associated with serpents. In this play, Creusa, the Queen of Athens, describes an embroidered robe:

ἀπλάτοις ὀφίων κεφαλαῖς   ἄϊε λειβόμενον δυσπενθέϊ σὺν καμάτῳ,   Περσεὺς ὁπότε τρίτον ἄνυσσεν κασιγνητᾶν μέρος.
Pindar's dates are 518-ca. 438 BC.

[17] Pindar, *Pythia* 10.46-48:
ἔπεφνέν τε Γοργόνα, καὶ ποικίλον κάρα   δρακόντων φόβαισιν ἤλυθε νασιώταις λίθινον θάνατον φέρων.

[18] Pindar, *Pythia* 12.16-18:
εὐπαράου κρᾶτα συλάσαις Μεδοίσας   υἱὸς Δανάας· τὸν ἀπὸ χρυσοῦ φαμεν αὐτορύτου ἔμμεναι.

[19] Pindar, *Olympia* 13.63-64:
ὃς τᾶς ὀφιώδεος υἱόν ποτε Γοργόνος …   Πάγασον…
Pindar also alludes briefly to the myth of Medusa and Perseus in *Nemea* 10.4, and to the father of the Gorgons (Phorcys, who was also grandfather of the Cyclops, Polyphemos) in *Dithyramb* 1.5.

[20] Herodotus, *Histories* 2.91:
Περσέα… ἀπικόμενον δὲ αὐτὸν ἐς Αἴγυπτον κατ᾽ αἰτίην τὴν καὶ Ἕλληνες λέγουσι, οἴσοντα ἐκ Λιβύης τὴν Γοργοῦς κεφαλήν, ἔφασαν ἐλθεῖν καὶ παρὰ σφέας

[21] Euripides, *Ion* 224:
ἀμφὶ δὲ γοργόνες.

"A Gorgon in the middle threads of a robe ... it is bordered with serpents in the manner of an aegis"[22].

In addition to the Gorgon head as protectress, we learn something important in the *Ion* about the function of Medusa's blood, and about her larger function as well. Queen Creusa tells an old servant about Medusa's blood, which Athena gave to Erichthonius, the ancestor of the Athenian line:

"Two drops of blood from the Gorgon ... One [is] deadly; the other brings healing of diseases"[23].

Thus, there is an ambivalence here about the death-aspect of the Goddess. Clearly, she represents regeneration as well as death. Indeed, the venom of a snake can be both poison and antitoxin. As I will discuss below, Medusa holds here the functions of the prehistoric Goddess of the life continuum: birth, death, and then regeneration. She is multifunctional and multi-dimensional and she should be viewed in all of her complexity.

In the second century BC, Apollodorus shows an expansion of this dual aspect of Medusa's blood:

"[They say that] Asclepius...having received from Athena blood flowing from the veins of the Gorgon, used that flowing from the left side for the destruction of humanity, [while] he used that from the right side for saving [humanity], and because of this, that he roused the dead"[24].

Apollodorus gives a commonplace reason for Athena's animosity – female competition and vanity on the part of Athena:

"It is said by some that Medusa was beheaded because of Athena; they say that, in fact, the Gorgon wished to compare herself to her [Athena] in [regard to] beauty"[25].

Apollodorus also gives a more expansive iconography of the Gorgons:

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[22] Euripides, *Ion* 1421-23:
Γοργὼν μὲν ἐν μέσοισιν ἠτρίοις πέπλων…κεκρασπέδωται δ' ὄφεσιν αἰγίδος τρόπον.

[23] Euripides, *Ion* 1003-1005:
δίσσοὺς σταλαγμοὺς αἵματος Γοργοῦς ἄπο…τὸν μὲν θανάσιμον, τὸν δ' ἀκεσφόρον νόσων.

[24] Apollodorus, *Atheniensis Bibliothecae* (The Library) 3.10.3:
Ἀσκληπιὸν…παρὰ γὰρ Ἀθηνᾶς λαβὼν τὸ ἐκ τῶν φλεβῶν τῆς Γοργόνος ῥυὲν αἷμα, τῷ μὲν ἐκ τῶν ἀριστερῶν ῥυέντι πρὸς φθορὰν ἀνθρώπων ἐχρῆτο, τῷ δὲ ἐκ τῶν δεξιῶν πρὸς σωτηρίαν, καὶ διὰ τούτου τοὺς τεθνηκότας ἀνήγειρεν.
This particular passage may be from the later Pseudo-Apollodorus. Some scholars now believe that the works attributed to Apollodorus were actually composed up to a few hundred years after his lifetime. See GARBER AND VICKERS 2003: 23.

[25] Apollodorus, Atheniensis Bibliothecae 2.4.3:
λέγεται δὲ ὑπ' ἐνίων ὅτι δι' Ἀθηνᾶν ἡ Μέδουσα ἐκαρατομήθη·
φασὶ δὲ ὅτι καὶ περὶ κάλλους ἠθέλησεν ἡ Γοργὼ αὐτῇ συγκριθῆναι.

"The Gorgons had heads twined around with the horny scales of serpents, and huge teeth [i.e. tusks] like [those of] boars, and bronze hands, and golden wings, by means of which they flew. And they turned to stone those who looked upon them"[26].

Here, the Gorgons are bird/snakes, similar to Neolithic European and Near Eastern female figures.

Perhaps evoking the etymology of Medusa as "the ruling one", Diodorus Siculus, in the mid-first century BC, describes the Gorgons as Amazon queens ruling in the area of Lake Tritonis in North Africa, in Greek called Libya:

"But the Gorgons, having increased in power in later times, were utterly subdued again by Perseus, the son of Zeus, at the very time when Medusa ruled them; and at last both they [i.e. the Gorgons] and the race of the Amazons were wholly destroyed by Heracles, when, invading lands to the west, he set up dedicatory stones in Libya, thinking that it would be terrible if, choosing to do good deeds for the general race of humanity, he should allow any of the nations to be ruled by women"[27].

The Roman poet Ovid (43 BC - 17 AD) also associates Medusa with Libya, and as the origin of the Libyan snakes:

"And as the conqueror [Perseus] hung suspended over the Libyan sands, bloody drops fell from the Gorgon's head; the earth receiving them, turned them into manifold snakes. Whence that land is full of, and infested with, snakes"[28].

Ovid also presents the most familiar story of Perseus and Medusa to non-specialists. In the land of the Gorgons, the Gorgon-heads had turned all living creatures into stone, and Perseus is helped by Athena to avoid this fate:

"[Perseus told how] he had reached the homes of the Gorgons, and that he saw far and wide, through the fields and along the roads, likenesses of people[29] and of animals, turned into stone once they saw Medusa's face. But [he said] that he himself had viewed

[26] Apollodorus, Atheniensis Bibliothecae 2.4.2:
εἶχον δὲ αἱ Γοργόνες κεφαλὰς μὲν περιεσπειραμένας φολίσι δρακόντων, ὀδόντας δὲ μεγάλους ὡς συῶν, καὶ χεῖρας χαλκᾶς, καὶ πτέρυγας χρυσᾶς, δι᾽ ὧν ἐπέτοντο. τοὺς δὲ ἰδόντας λίθους ἐποίουν.
Thus, anyone – not just a man – who looks at a Gorgon's face will turn to stone.

[27] Diodorus Siculus, *Bibliothēkē* 3.55.3:
…τὰς δὲ Γοργόνας ἐν τοῖς ὕστερον χρόνοις αὐξηθείσας πάλιν ὑπὸ Περσέως τοῦ Διὸς καταπολεμηθῆναι, καθ᾽ ὃν καιρὸν ἐβασίλευεν αὐτῶν Μέδουσα· τὸ δὲ τελευταῖον ὑφ᾽ Ἡρακλέους ἄρδην ἀναιρεθῆναι ταύτας τε καὶ τὸ τῶν Ἀμαζόνων ἔθνος, καθ᾽ ὃν καιρὸν τοὺς πρὸς ἑσπέραν τόπους ἐπελθῶν ἔθετο τὰς ἐπὶ τῆς Λιβύης στήλας, δεινὸν ἡγούμενος, εἰ προελόμενος τὸ γένος κοινῇ τῶν ἀνθρώπων εὐεργετεῖν περιόψεταί τινα τῶν ἐθνῶν γυναικοκρατούμενα.
The text for Diodorus Siculus may be found in DINDORF, ed. 1866.

[28] Ovid, *Metamorphoses* 4.617-620:
Cumque super Libycas victor penderet harenas, Gorgonei capitis guttae cecidere cruentae;
quas humus exceptas varios animavit in angues, unde frequens illa est infestaque terra colubris.

[29] Ovid uses the Latin word, *hominum*, which refers to people: both women and men; he does not use the Latin *vir*, which refers to heroic men.

the likeness of dreadful Medusa reflected in the bronze shield which his left hand bore, and while a heavy sleep held both the snakes and her, he had struck off her head from her neck, and from the blood of the mother were born fleet-winged Pegasus and his brother"[30].

Thus, Perseus rather unheroically killed Medusa while she slept, using a mirror to allow himself to safely see Medusa's face and avoid the magic of her gaze. Indeed, the bronze mirror is historically the priestess/shaman's tool, rather than the tool of the young male hero[31]. A further clue to the shamanic potential of Medusa's story is that Medusa cannot be found without the help of the Graiai, three sisters who have one eye and one tooth between them. The one-eyed one sees deeply into the other worlds.

Ovid also gives us a glimpse of the violent transformation of the beautiful Medusa into the only Gorgon with snaky hair:

"She was most beautiful in form, and the envied hope of many suitors. And there was no part of her more attractive than her hair: I learned that [from someone who] said that he had seen her. The ruler of the sea [Neptune] is said to have raped her in the temple of Minerva. The daughter of Jupiter [that is, Minerva/Athena] turned away and hid her chaste face in her aegis; nor was this deed unpunished. She turned the hair of the Gorgon into ugly snakes"[32].

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[30] Ovid, *Metamorphoses* 4.779-786:
Gorgoneas tetigisse domos passimque per agros perque vias vidisse hominum simulacra ferarumque
in silicem ex ipsis visa conversa Medusa. Se tamen horrendae clipei, quem laeva gerebat,
aere repercusso formam adspexisse Medusae, dumque gravis somnus colubrasque ipsamque tenebat,
eripuisse caput collo; pennisque fugacem Pegason et fratrem matris de sanguine natos.

[31] See MASSON and SARIANIDI 1972: 122. Further, the prolific first-century AD writer Lucan tells us, "[Athena] told Perseus that, at the border of the Libyan land, he should turn towards the rising sun [lit. Phoebus (Apollo)], plowing with backwards flight the Gorgon's realm". Lucan, *Pharsalia* 9.666-670:
...terraeque in fine Libyssae Persea Phoebeos converti iussit ad ortus, Gorgonos averso sulcantem regna volatu...
That is, Medusa was to be killed at sunrise: Medusa, the shaman-priestess, was to be killed at a liminal time, a magical time, in keeping with Medusa's own magical power.

[32] Ovid, *Metamorphoses* 4.794-801:
clarissima forma multorumque fuit spes invidiosa procorum illa, nec in tota conspectior ulla capillis pars fuit: inveni, qui se vidisse referret. hanc pelagi rector templo vitiasse Minervae
dicitur: aversa est et castos aegide voltus nata Iovis texit, neve hoc inpune fuisset,
Gorgoneum crinem turpes mutavit in hydros.
As do many Greco-Roman authors, Lucan discusses Medusa's snaky hair – but with a twist (Lucan, *Pharsalia* 9.632-53): "The snakes used to whip against Medusa's neck–to her delight–her hair unbound, hanging down her back, in feminine mode. The serpents, [heads] lifted up, stood up at her forehead [that is, forming bangs]. And when her hair was combed, the snaky venom flowed... No living being [could] stand the sight, and even the Gorgon's snakes used to avoid [her] face, slithering backwards [from her forehead]".
Femineo cui more comae per terga solutae,
Ipsa flagellabant gaudentis colla Medusae.
Surgunt adversa subrectae fronte colubrae,

We should recall that Hesiod gives another story of Poseidon (the Greek equivalent of the Roman Neptune) and Medusa; in the *Theogony*, they lay together in a pasture full of flowers – a much more life-affirming scene than a rape in the temple of Athena. Later authors such as Ovid wanted to explain why Athena wears Medusa's head in her aegis and thus in his text Medusa directly offended Athena.

Two second-century Greek writers attest to the ongoing recognition of the complexity and power of Medusa. Lucian[33] (ca. 120-180 AD) echoes the tradition of Medusa's beauty in his view that it was the beauty of the Gorgons which paralyzed:

"The Beauty of the Gorgons, inasmuch as it is most powerful and that it deals with [is in company with] the most vital aspects of the soul, forthwith drives the beholders senseless and makes them speechless, so that, as the myth indicates and people say, they were turned into stone, from astonishment"[34].

The Greek traveler Pausanias, writing approximately 150 AD, tells a euhemerizing story, in which Medusa is an African Amazon, ruling over those who lived near Lake Triton. Perseus makes war upon her: he cuts off her head and takes it to Greece. Subsequently, he was said to have buried Medusa's head in the *agora* in Argos, in order to protect the city:

"Not far from the building in the market-place of the Argives there is a mound of earth. In it, they say, lies the head of the Gorgon, Medusa"[35].

Again, the head of Medusa is protective and apotropaic. Few people would want to bury the head of a purely malevolent being in a sacred precinct.

These Greco-Roman authors believed that Medusa was beautiful and horrific, that her gaze turned people to stone but that her blood could heal; that she was multivalent and multifunctional.

Iconography

There are many theories about which mythical figures were antecedents to Medusa. It is likely that her tapestry weaves together threads which stretch back in time to European

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vipereumque fluit de pexo crine venenum...
Nullum animal visus patiens, ipsique retrorsum
effusi faciem vitabant Gorgonis angues.

[33] Lucian is to be distinguished from the Roman poet Lucan, cited above.

[34] Lucian, *The Hall* 19:
τὸ δὲ τῶν Γοργόνων κάλλος, ἅτε βιαιότατόν τε ὂν καὶ τοῖς καιριωτάτοις τῆς ψυχῆς ὁμιλοῦν, εὐθὺς ἐξίστη τοὺς ἰδόντας καὶ ἀφώνους ἐποίει, ὡς δὲ ὁ μῦθος βούλεται καὶ λέγεται, λίθινοι ἐγίγνοντο ὑπὸ θαύματος.

[35] Pausanias, *Description of Greece*: 2.21.5-6:
τοῦ δὲ ἐν τῇ ἀγορᾷ τῶν Ἀργείων οἰκοδομήματος οὐ μακρὰν χῶμα γῆς ἐστιν· ἐν δὲ αὐτῷ κεῖσθαι τὴν Μεδούσης λέγουσι τῆς Γοργόνος κεφαλήν.

and Near Eastern Neolithic cultures, and which are reflected in the earliest Neolithic shamanic figures, and in the early historic demon– and death – figures throughout Europe, the Near East, and elsewhere in the ancient world. It is likely that the range of ways in which Medusa was viewed, from positive to negative, reflects the range of spheres of the Neolithic Goddesses of birth, death, and regeneration, and the negative stress given to death Goddesses by early historic western writers who viewed death as an end of existence, rather than as part of a Great Round. In this section, I will discuss several possible threads in the tapestry of Medusa's multifaceted iconography.

THE NEOLITHIC BIRD AND SNAKE GODDESSES

Medusa's snaky hair leads one to assume that she is also descended from the Neolithic snake goddesses. In the Neolithic period, throughout Europe and the Near East, there appear figurines which represent bird/women, snake/women, and bird/snake/woman hybrids[36]. Since Goddesses with bird and snake iconography appear in early historic cultures, such as those of Egypt and Mesopotamia, it has been theorized that the figurines represent powerful divine female figures in the Neolithic cultures of Europe and the Near East. Just as the more ancient figures, Medusa too is winged, and she has snaky hair: that is, she embodies both the serpentine and the avian aspects of the Neolithic bird/snake Goddess, even though she does not have these characteristics in her earliest depictions.

The bird/snake Goddess represents the continuum of birth, life, death, rebirth. The realms of the bird and snake cover all of the worlds; the realm of the bird is the heavens, while waterbirds also occupy the waters. That of the snake is the earth and Underworld, and likewise water snakes occupy the waters. Both bird and snake embody graphic depictions of birth, since both are oviparous. Both creatures are graphic depictions of regeneration as well, since birds molt and snakes shed their skin. In Neolithic Europe, death and rebirth were tied together in the tomb which served as a ritual place for rebirth: the tomb was also the womb[37]. In her death aspect, a Goddess such as Medusa turns people to stone – a form of death, since all human activity ceases for those thus ossified.

Read against the iconographies of the bird/snake goddesses, one can identify ways in which the Underworld Goddess, the death Goddess, gives birth to life. Like Ereshkigal, with her leeky hair, Medusa with her snaky hair is also a birth-giver. But in Medusa's case, she gives birth as she is dying, whereas in the earlier, Sumerian myth the process of death led to regeneration; the Goddess of the Underworld did not have to die in the process of giving birth; she who presided over death presided over rebirth. The winged snake

[36] See the Cretan bird-faced female figure with a snake draped over her shoulders: Heraklion Museum, Crete; pre-1700 BC. For an in-depth discussion of Neolithic European and Near Eastern bird and snake figures and their degeneration into early historic witches and monsters, see DEXTER 1997, 2011, 2013.

[37] See GIMBUTAS 1999: 55-71. See also MARLER 2002: 19.

Goddess, before her head is severed by Perseus, is whole; in prehistory she would have been a Goddess of all of the worldly realms. When Medusa's head is severed, she becomes disembodied. Disembodied wisdom is very dangerous. Hence, she becomes monstrous. It is her chthonic self which the Classical world acknowledges: Medusa becomes the snaky-haired severed head, a warning to all women to hide their powers, their totalities. This fearsome aspect goes two ways: she can destroy, but she also brings protection.

Many Indo-European female monsters carry bird and snake iconography. Baltic witches, *raganas*, take the shape of crows, and they have snakes in their hair[38]. The Roman poet Vergil, in the *Aeneid*, gives serpentine and avian associations to Furies, Dirae, Sirens, and Harpies. Medusa was one of many monstrous figures who received this iconography.

The wings and snakes may have been late additions to the portrayal of Medusa, but they are nonetheless a natural concomitant of the ferocious death Goddess. Wings were added to Medusa's iconography ca. 800 BC, by the Greeks[39]; later on, she was described as winged in text as well. In a portrayal of the Medusa from Miletus, Medusa is associated with snakes but she is not snaky herself. Nonetheless, she accrued the iconography of the Neolithic bird and snake Goddess.

The Near Eastern Demon Figure Humbaba

Part of Medusa's iconography and myth was borrowed from the ancient Near East, and this forms an important component of her composite character. In ancient Mesopotamia, in the "Epic of Gilgamesh", the hero (and perhaps first Sumerian king) Gilgamesh fights the demon Humbaba and beheads him[40], just as later the Greek hero Perseus fights and beheads the Gorgon, Medusa.

The severed head of Humbaba may be a prototype for Medusa's head, severed by Perseus, a motif borrowed by the Greeks during the Orientalizing period, beginning in the late eighth century BC. Several Mesopotamian sites contained terracotta relief plaques of grimacing faces framed by S-shaped furrows. A seal from Mitanni, dating to ca. 1450 BC, may depict the detached head of Humbaba[41]. Cyprian art borrowed this iconography as well, and Greek art may have borrowed from both. This motif found its way to Sparta by

[38]See GIMBUTAS 1999: 205: "Ragana...carried the energy of a snake; if a Ragana died, you might see her hair curl, like a Gorgon's, into snakes, and little snakes crawl out of her mouth".

[39] FROTHINGHAM 1911: 364; HOPKINS 1934: 344, 358.

[40]Although the Assyrian version of the epic was written ca. 700 BC, there are Akkadian and Old Babylonian versions as well. At least some of the epic seems to be based upon a Sumerian version. Thus, the epic dates back to at least the beginning of the second millennium BC. See PRITCHARD 1969, 72-73. For various recensions of the poem, see PRITCHARD 1969: 73-99. The name of the demon is given as Humbaba and Huwawa in the different tablets.

[41] CARTER 1987: 361, footnote 25.

the eighth or seventh centuries BC, introduced to Sparta by the Phoenicians[42]. Both Gilgamesh and Perseus employ the Assyrian-Cyprian sickle or harpé for the beheading. At least by 698 BC – around the time Hesiod was composing the *Theogony* – the Assyrians met the Greeks, when Sennacherib invaded Cilicia. Assyrian power grew during the seventh century, and Assyrian art exerted a direct influence upon the Greek artistic movement[43]. Further, the story of the Gorgon-slaying finds its way into Greek art and myth at a time when the Gilgamesh story – including his beheading of Humbaba – seems very popular in Assyrian texts and art[44].

Humbaba, just as Medusa, was represented full-face – rather than with face in profile – with legs in profile. He is often represented by his head alone – again similarly to Medusa. Humbaba was portrayed with grimacing mouth, and with two rows of teeth. When full-bodied, he was frequently depicted in the *knielaufen* or bent-knee pose. Medusa assumes both the *knielaufen* pose and the full-face representation. There is a beautiful bent-knee Gorgon on the western pediment of the Artemis temple in Corfu, dating to ca. 590-580 BC. The Medusa on this pediment is nine feet tall; her waist is cinched with serpents, and there are only a couple of discrete snakes in her hair. She appears with a lion and with her children, Pegasus and Chrysaor. This bent-knee posture may have a shamanic connection. Indic sky-dancers take this pose, as does the Goddess Kālī and the Irish Kiltinan Sheela na gig. In Bulgaria, there is a 'crooked dance', danced by women in women's initiation rituals: this may be the dancing version of the bent-knee position, which was probably active dance rather than static stance[45].

Iconographically, Humbaba's head was placed over thresholds to guard the inhabitants – an apotropaic function similar to Medusa's. The Medusa head was placed on soldiers' shields, over doorways, as antefixes on roofs, on doors of ovens and kilns, and on Athena's aegis. Many of these Medusa antefixes can be found today, in museums all over the world.

Humbaba's role in the texts was both protective and ferocious. He was protector of the cedars of the forest – and particularly of the sanctuary of Irmini (Ishtar) in the forest, frightening human beings in order to keep them out of the forest[46]. Humbaba could be malevolent or benevolent – similarly to the Goddess Ishtar herself, the Goddess who could cause fruitfulness or barrenness, and who could give birth or bring death.

[42] CARTER 1987: 362.

[43] HOPKINS 1934: 345.

[44] HOPKINS 1934: 357.

[45] See DEXTER and MAIR 2010.

[46] HOPKINS 1934: 346, 357.

The Horse

Medusa was depicted as a horse. A Boeotian geometrical-age vase (ca. 650 BC) portrays Medusa in relief as a centauresse, with the hindquarters of a horse emerging from her lower back[47]. A vase from Rhodes (sixth century BC) as well as a red-figured amphora from Naples, depict Medusa with horse's head[48].

Although we are not told so explicitly in text, when the "dark-blue-maned" one, Poseidon, rapes Medusa, she has become a mare, and that is why she can give birth to a foal, Pegasus. That is, she was the horse as well as the mother of the horse, just as she was the winged one, as well as the mother of the winged horse. She is beheaded – killed – in a ritualistic manner. She thus may be the Greek version of the sacrificed mare in the Indo-European horse-sacrifice, the ritual affirming the Indo-European kingship[49] – that is, she may be an Indo-Europeanization of a pre-Indo-European female figure. The sacrifice of Medusa may also reflect shamanic sacrifice. As Medusa's head is severed from her body, so her wisdom is severed from her physical self, her sexuality. She has slept with Poseidon and given birth to the horse, Pegasus, and to Chrysaor, but as soon as she fulfills the functions of Mother she becomes a disembodied head. She is frozen in her persona of death.

Viewing the Greek Medusa

By the seventh century BC, artists began to portray the whole body of Medusa, rather than just the head. It is at this time that we first find the story of Perseus slaying a ferocious, monstrous Medusa in Greek literature, in Hesiod's *Theogony*.

Medusa's iconography grew with time. She grew wings (this rather early), a lolling tongue, and the tusks of a wild boar. The boar's tusks relate her to the death Goddess. There are no Assyrian parallels for Medusa's protruding tongue[50]. Sometimes she is bearded[51].

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[47] See WILK 2000: 36, Figure 3.9.

[48] GERSHONSON 1989: 377. The horse's head had an apotropaic function. In the Roman ritual of the *October Equus*, after a chariot race, the head and tail of the victorious right-hand horse were cut off. The head was then nailed to the wall of a sacred place and it was supposed to protect the people whose city it overlooked. (See GERSHONSON 1989: 379).

[49] See DEXTER 1990: 285-307. As the sacrificed horse, Medusa can be compared to other Indo-European hippomorphic Goddesses: the Old Irish Macha, the Welsh Rhiannon, and the Greek Demeter Erinys. Just as Medusa gives birth at the moment she is decapitated, so the Old Irish third Macha dies at the moment of victory in a race against horses, giving birth to a boy and a horse.

[50] Some scholars believe that the Egyptian god Bes, who has a protruding tongue, was a precursor to Medusa. However, there were Neolithic European female figures as well with protruding tongues. See GIMBUTAS 1999: 24, Figure 1, from the Sesklo culture of Neolithic Thessaly, Northern Greece, dating from 6000-5800 BC. This head has fangs (compare these to the later boar's tusks of Medusa), large round eyes, a large tongue, and a checkerboard design on its forehead. See also GIMBUTAS 1989: figure 323, a female figure from Southern Romania; ca. 4500 BC. She has spiral eyes and a large mouth; she holds her shriveled left hand to her lower lip or tongue.

[51]See the bearded Gorgon in GARBER, VICKERS 2003, figure 4, (510-500 BC; detail of a kylix.).

On the Thracian Kul Oba phiale, Medusa appears with heads of lions[52]. The lions also relate Medusa to Near Eastern Goddesses connected with lions: Inanna, Ishtar, Cybele, and others, and to female figures appearing as early as the earliest Upper Palaeolithic, for example, in Chauvet cave. Female display figures are represented with lions from the Upper Palaeolithic Aurignacian period through the Neolithic and Bronze ages[53]. Among the ancient Scythians and Thracians as well, Medusa figures were popular iconographic subjects[54]. In fact, in one Thracian tomb excavated in 2004, the Goliama Kosmatka burial mound near Shipka, in the Bulgarian Valley of the Thracian kings, there has been found a most interesting symbolic burial. There was a corridor with three chambers; in the first, there was a horse sacrifice. The second chamber was round, with a beehive roof. The third and inmost chamber, dug into a granite block weighing more than 60 tons, was shaped like a sarcophagus. A symbolic burial was made in this chamber (in another chamber was found the burial of King Seuthus III), which contained golden objects weighing more than 700 grams. There was a ritual bed molded out of the granite, and at its head was placed a piece of a door on which was sculpted a figure of Medusa; this door was covered with a snake skin[55]: a potent symbol of regeneration.

Female figures similar to Medusa existed in eastern and southeast Europe. She may be compared to the earlier Sumerian Underworld Goddess Ereshkigal, the Indic Goddess Kālī, the British and Irish Sheela na gigs, and to the Indic Lajjā Gaurī figures who bring good fortune to the temples in which they reside[56]. All of these figures, just as Medusa, belong to Indo-European cultures. But of all of these figures, only Medusa was viewed as a monster, and only Medusa needed to be decapitated and destroyed.

INTERPRETING MEDUSA

I believe that Medusa was a synthesis of the Near Eastern male demon-spirit and the Neolithic European Goddess of the Life Continuum, the processes of birth, death, and rebirth. However, in Greco-Roman literature, she is not just a synthesis of these elements; she remains frozen in her death-aspect, a corpse. Her apotropaic face is a death-mask. But indeed, it is not truly possible to separate the most ancient Goddesses of the life continuum – of birth, death, and rebirth – into a Goddess of life and a Goddess of death. For this reason, historic avatars of the death Goddesses such as the Sumerian/Akkadian-Babylonian/Hebrew

[52] Compare the way in which Euripides portrays the "barbarian" Medea as a lioness (Euripides. *Medea*, lines 187 and following).

[53] See DEXTER and MAIR 2013; *Sacred Display: New Findings*. See Dexter 2015: 295-316.

[54] See REEDER 1999; see also MARAZOV 2001: 15-50.

[55] Ivan Marazov (Bulgarian archaeologist and philologist), Personal Communication, 2005; I thank him for bringing me to this tomb in June of 2005.

[56] For comparisons of Medusa with these similar figures throughout Europe and Asia see DEXTER and MAIR 2010.

Lil/Lilitu/Lilith and Ereshkigal are also voracious in their life-affirming sexuality. They represent love and life as well as death and the Underworld – as does Medusa.

Earlier, I referred to the concept of the tomb as womb, the view that burial monuments were often the sites of rituals involving the concept of regeneration. This raises the possibility of seeing Medusa's gaping mouth of death as the birth canal, through which we reach the Underworld, which may be compared to the womb of the birth-mother, and through which one is given life again. In this sense, Medusa is shaman as well, arbiter between this world and the Otherworld.

Modern Psychological Theories regarding Medusa

There are many modern psychological theories about Medusa. They range from theories about feminist rage to theories about Medusa's beauty. These I have discussed in the publications enumerated in footnote one of this article. Many artists as well as psychologists have identified with the rage of Medusa. The Italian scholar and artist, Cristina Biaggi, who now works in the United States, incorporated her studies of prehistory and ancient history and myth into a powerful fiberglass sculpture, "Raging Medusa" (2000). The sculpture is 5.5 feet in diameter and it weighs 98 pounds.

Conclusions

Although Medusa may be of use to modern feminists, providing an ancient locus for modern rage, yet it is important to see that the raging head of Medusa has lost the fullness of the original powers of the Neolithic Goddess of the Life Continuum. The Greek Medusa is different from her sisters across time and space. Whereas the Neolithic Goddess is a powerful arbiter of birth, death, and rebirth, she has been transformed in Greek from a Goddess of the life continuum to a dead head. Although Medusa is still sexual in the Greek material – she has sex with Poseidon in a meadow and gives birth to twins – she becomes more closely associated with death than with life. She becomes feared and she therefore must be murdered. Perhaps if one kills death, then the living somehow won't have to die – at least in mythical time. Medusa continues to be viewed as protective and apotropaic – warding off evil, warding off the enemy – and even healing in the Greek tradition, but she has also lost her power. It is thus important to pay attention to her beneficent aspects: the fact that half of her blood is healing, and that images of her head are used to protect buildings of multiple functions within the Greco-Roman sphere; so protective is she considered to be that her head was buried near the Argive market-place. Medusa is magical. She reminds us that we must not take the female "monster" at face value, and that we must remember her divine Neolithic origins.

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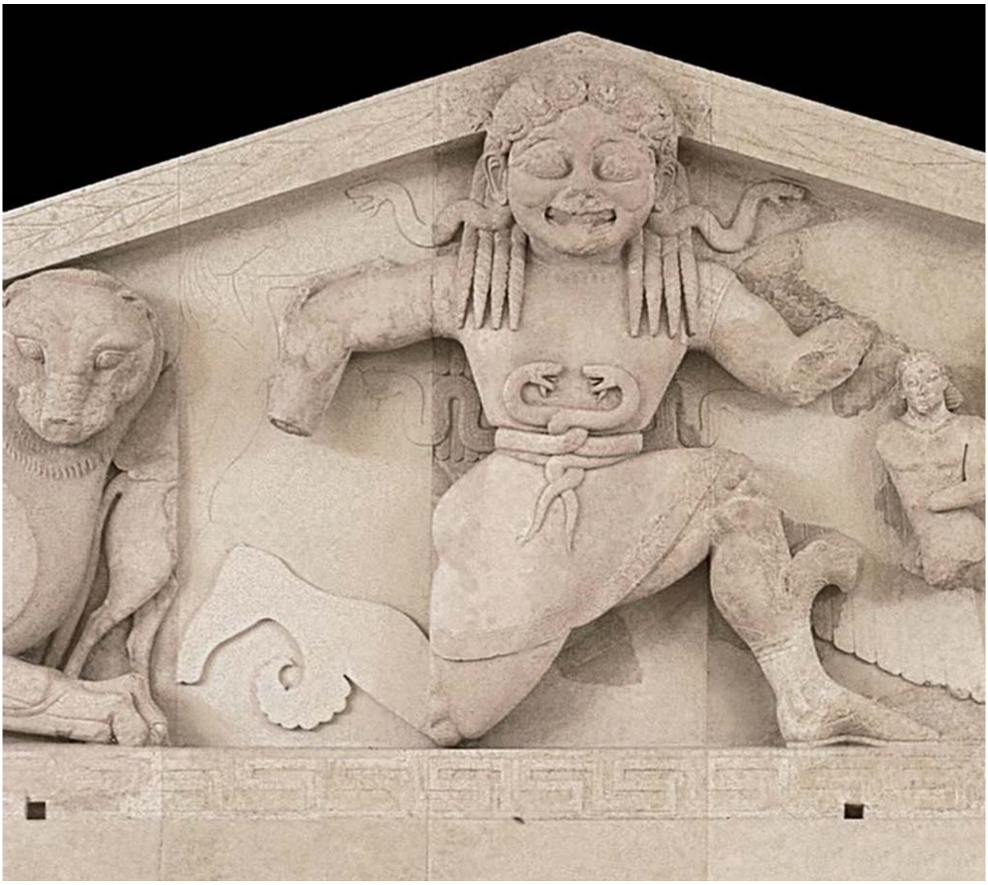

Fig. 1. Gorgon, pediment, Artemis Temple, Corfu, 590-580 BCE.
The Medusa on this pediment is nine feet tall; her waist is cinched with serpents;
there are snakes in her hair. She appears with a lion and with her children, Pegasus and Chrysaor.
Courtesy Kerkyra Archaeological Museum.

Fig. 2. Gorgon Antefix, 620-600 BCE.
Courtesy Kerkyra Archaeological Museum.

THE MAGIC POWER OF STONES. PREHISTORIC TOOLS IN A ROMAN MITHRAIC CONTEXT[1]

Aurel RUSTOIU[2]

Abstract: First millennium AD witnessed a relatively widespread phenomenon – the reuse of older artefacts originating from prehistoric cultures. A few artefacts of this kind have recently been found during archaeological investigations in the Mithraeum III from Alba Iulia. These are three flint tools which probably belonged initially to a Neolithic settlement in the Mureş valley. In the Roman context of the Mithraeum from Apulum, they are "found objects" and their cultural "biography" was modified according to the concepts and beliefs of the Roman age. The Romans considered prehistoric flint tools, as well as the Neolithic polished stone axes, to be materializations of the divine thunderbolt. This celestial origin ascribed to prehistoric stone tools also gave them magical, apotropaic powers. Accordingly, they were meant to protect the owners or various constructions against the devastating consequences of lightning strikes. In this context, the three flint stones associated with the Mithraeum from Apulum could have played this "practical" role.

Keywords: *Apulum, worked flints, Neolithic, Roman Dacia, Mithraeum, found objects, magic, apotropaic, thunderbolt, Jupiter*

INTRODUCTION

First millennium AD witnessed a relatively widespread phenomenon – the reuse of older artefacts originating from prehistoric cultures. In archaeological literature, they are known as "antiquities", "archaika", "relics" etc, being studies from different perspectives. Some studies focused on the ways in which these artefacts were transmitted through time

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from one generation to another, or were rediscovered later and reinterpreted both functionally and symbolically[3].

This approach is based on a series of anthropological theories arguing that the objects (things), like the people, have a social history and also gain a social biography through human interaction. Throughout their lifespan, from manufacturing to use for a shorter or longer period (sometimes during several generations) and then to discarding, the identity and symbolic meaning of the objects could be changed according to the social contexts in which they are used. At the same time, the social biography of the objects could be changed according to the means and routes through which they "travel" across space and time, as well as within or between communities[4].

The question is what has happened with the "discovered" objects ("objets trouvés") whose initial "biography" has been forgotten? Archaeological contexts of discovery, as well as the manner in which these objects were reused, indicate that their function and significance were reinvented and the objects in question gained a new "biography". Usually their function moved from the practical, profane uses to the magical domain in which they were invested with apotropaic qualities. This is the case of the "prehistoric" stone tools and instruments which were later "discovered" and adapted practically and symbolically to the spiritual practices and beliefs of the "historic" times. The few artefacts of this kind which were recently discovered during the archaeological investigation of the Mithraeum III at Alba Iulia[5] seem to provide a relevant example. They are also an appropriate subject of analysis for this volume which is honouring Dr. Magda Lazarovici, a well-known researcher of the Eastern European Neolithic and Eneolithic.

ARTEFACTS AND THEIR CONTEXTS OF DISCOVERY

Three prehistoric stone artefacts were discovered in different archaeological contexts in the area of the Mithraeum. This is their description[6] (Pl. I):

1. Lamellar flake (L=30 mm; W=24 mm; Th=7 mm). Complete, triangular cross-section. The perimeter has fine retouching traces, marginal, on both directions, combined

[3] MEANEY 1981: 192-238; ECKARDT, WILLIAMS 2003; MEHLING 1998; PION 2011; PION 2012; GILCHRIST 2008; UNGERMAN 2009; RUSTOIU 2015a; RUSTOIU 2015b.

[4] APPADURAI 1986; KOPYTOFF 1986; GOSDEN, MARSHALL 1999; JOY 2009; HAHN, WEISS 2013 etc.

[5] Archaeological excavations were carried out in 2013-2016 within the Apulum-Mithraeum III International Archaeological Project, co-directed by Mariana Egri, Matthew M. McCarty and Aurel Rustoiu. Preliminary reports were published in Cronica Cercetărilor Arheologice din România: RUSTOIU *et al.* 2014; RUSTOIU *et al.* 2015; RUSTOIU *et al.* 2017. See also some preliminary studies published or forthcoming: EGRI *et al.* 2018; MCCARTY *et al.* 2018.

[6] The artefacts were identified and described by Dr. Senica Ţurcanu (Museum of the History of Moldova in Iaşi) whom I want to express my gratitude.

with small notches and flaking due to being used. Yellowish-grey flint, slightly translucent, with white pigmentation.

2. Un-retouched flake (L=29 mm; W=15 mm; Th=5 mm). Complete. It shows small perimeter flaking due to being used or taphonomic factors. Convergent edges form a sharp point which could have been used as a drill. Yellowish-grey quartzite with white pigmentation, more likely originating from Poiana Ruscă Mountains[7].

3. Retouched flake (L=33 mm; W=23 mm; Th=5 mm). Fragmentary piece, nearly triangular. On the distal side, the convergent edges once formed a sharp tip, whose end is now broken, which could have been used as a drill. Convergent edges have marginal fine retouching, inversed. One convex cutting on the proximal side, which is slightly thinning the piece's body, could indicate that it was fitted with a handle. Cortical flake knapped from a river-rolled cobble core. Black flint with fine whitish pigmentation.

The morphological features of these stone tools are not allowing a more precise identification of their initial dating[8]. However, the source of raw material used for piece no. 2 could be in the Poiana Ruscă Mountains. Similar tools and instruments were identified in Neolithic settlements from the middle Mureş valley[9], which may suggest that the artefacts from Alba Iulia were produced in the same period.

Piece no. 1 has been found during the clearing of the northern profile of the excavated area, close to the northern wall of the Mithraeum (Pl. II/1.1). It could have been mixed with the debris resulted from the building's decaying, though it could have also come from the early medieval layer that disturbed the Roman layers. Piece no. 2 has been found in the area of the antechamber, in a post-Roman layer which also included numerous fragmentary artefacts and debris from the decaying Roman sanctuary (Pl. II/1.2). Lastly, piece no. 3 comes from a medieval pit which cut through the nave of the Mithraeum, so the fill also contains Roman finds in secondary position (Pl. II/1.3).

In spite of their rather unclear stratigraphic positions, these three artefacts could likely belong to the Roman structure, being then displaced by later activities on site. In this context, it is important to underline that the decaying Mithraeum was still visible at the beginning of the medieval period, the structure being used as a source of building materials. More than that, some parts of the Roman sanctuary were reused to support medieval houses. One of these houses included an oven built of architectural elements coming from the Mithraeum or from other Roman structures probably located in the vicinity[10] (Pl. II/2). Thus the appearance of artefacts belonging to the Roman layers in the later dated ones is a clear possibility. Lastly, it has to be also noted that the presence of these stone tools is not

[7] Geological identification of the raw materials used for these tools was made by geologist Laura Baciu (Cluj-Napoca), whom I want to express my gratitude.

[8] For the Neolithic flint tools see, for example, ŢURCANU 2009.

[9] NIŢĂ *et al.* 2015.

[10] RUSTOIU 2015a: 254, Fig. 7.

related to any Palaeolithic or Neolithic settlement from the site or its vicinity, since no other prehistoric finds, structures or layers were discovered during the archaeological excavations in the area. It might be therefore concluded that these three stone artefacts are "discovered objects" ("objets trouvés") which could have been reused in Roman times or even later, having a different scope and function than the ones they had initially.

DISCUSSION

"Prehistoric" flint tools, either complete or fragmentary, as well as knapping remains, were used in various ways as "discovered objects", both in profane activities and in magical or religious practices.

From the practical point of view, flint tools were sometimes reused as fire-starting instruments. For example, such tools were sometimes discovered in graves belonging to the late Scythian culture (between the end of La Tène C and the early Roman period) from the northern Black Sea coast, being reused for fire making. Their new function was demonstrated by the surface analysis of the pieces, which show traces of being struck with an iron object, and by their association with iron instruments which could have been used as fire strikers, for example knives[11]. Another similar reuse of "prehistoric" flint tools was also observed in the same region during other historical periods, including the Roman times[12]. At the same time, their association with fire strikers was also documented in Anglo-Saxon graves from Britannia[13]. Moreover Pliny the Elder (*Nat. Hist.* 36.30) writes that fire can be started by striking a chunk of pyrite with an iron nail or with another stone (he was more likely referring to flint). The resulting sparks ignited a flammable material: sulphur, tinder fungus, dry grass or other types of vegetal tinder. This method of making fire was used, for example, by Roman troops of *exploratores*.

The flint tools found in the area of the Mithraeum at Alba Iulia are too small to be used as fire-making instruments[14]. Thus, the reason for their reuse as "discovered objects" has to be discussed by taking into consideration other practices that are related to the magical world.

One aspect that is relevant for this interpretation is their perception as "magical" objects that have supernatural, protective properties. Before modern times, these "antiquities" which were discovered more-or-less accidentally were never perceived as material traces of the human past. On the contrary, they were considered parts of the natural domain. While discussing the manner in which medieval people perceived ancient

[11] MĄCZYŃSKI, POLIT 2017: 385-389.

[12] MĄCZYŃSKI, POLIT 2016; MĄCZYŃSKI, POLIT 2017: 385.

[13] MEANEY 1981: 211.

[14] See, for example, the dimensions of the flint tools from the cemetery at Neyzats in Crimea, dated to the 2nd-4th centuries AD: MĄCZYŃSKI, POLIT 2016: Fig. 2-9.

discoveries, R. Gilchrist observed "that antique items placed in medieval graves were not valued for their temporal or biographical associations, but rather for their connection to the natural world. Roman antiquities came from the earth, just like fossils and prehistoric axes and arrowheads. Stone, fossils, and "found objects" such as antique intaglios and prehistoric lithics were regarded by medieval people as natural objects that possessed miraculous properties"[15]. A similar perception must have existed also in the Roman period, as Pliny the Elder seems to suggest (see below).

The magical qualities of these objects were also directly related to the popular beliefs regarding the mythical past of the humanity or the creation and functioning of natural environment. For example, prehistoric flint tools were often perceived as materializations of the thunderbolt or of the arrows fired by supernatural entities like fairies or elves[16]. Thus, according to the principles of sympathetic magic, these objects were useful as protection against lightning strikes or ill-meaning supernatural beings[17]. In Western Europe or Scandinavia, such prehistoric stones were inserted into the walls or other parts of the houses during construction to protect them against lightning strikes[18]. The perceived supernatural, celestial origin which conferred magical powers to these prehistoric flint tools also led to their use in curative medical practices. These "medical remedies" worked either by simply touching the diseased body parts with these tools, or by grinding the stones and swallowing the resulting powder. Ethnographic literature mentions this kind of use in different cultural and geographic areas, from the British Isles to south-eastern Asia[19].

Returning to the Romans' beliefs regarding the flint objects, Pliny the Elder uses the Greek term *ceraunia* which referred to the "thunderbolt" (*Nat. Hist.* 37.51). Here is his description:

"Among the white stones also, there is one known as *ceraunia*, which absorbs the brilliancy of the stars. It is of a crystalline formation, of a lustrous azure colour, and is a native of Carmania. Zenothemis admits that it is white, but asserts that it has the figure of a blazing star within. Some of them, he says, are dull, in which case it is the custom to steep them for some days in a mixture of nitre and vinegar; at the end of which period the star makes its appearance, but gradually dies away by the end of as many months. Sotacus mentions also two other varieties of *ceraunia*, one black and the other red; and he says that they resemble axes in shape. Those which are black and round, he says, are looked upon as sacred, and by their assistance cities and fleets are attacked and taken: the name given to

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15 GILCHRIST 2012: 247.

16 MEANEY 1981: 210-213; GILCHRIST 2012: 247.

17 For example, some populations believed that sharp pains in the body were produced by arrows fired by supernatural beings. As a means of defence, mostly women and children used to wear amulets consisting of old flint or bronze arrowheads belonging to ancient times and found more-or-less accidentally. See a wider discussion in RUSTOIU 2015b, with bibliography.

18 GILCHRIST 2012: 247; see also MEANEY 1981: 211-212; PAINE 2004: 87-88.

19 MEANEY 1981: 212; CADIÈRE 1902.

them is *baetyli*, those of an elongated form being known as *cerauniae*. They make out also that there is another kind, rarely to be met with, and much in request for the practices of magic, it never being found in any place but one that has been struck by lightning"[20].

Accordingly, the Romans considered prehistoric flint tools to be materializations of the divine thunderbolt, which was the primary attribute of Jupiter[21]. The place struck by lightning became sacred. At the same time, the thunderbolt was symbolically "buried" in the same place together with various things which were struck or with other iron or stone objects (including those made of flint or other Neolithic polished stones) which were considered the tangible sign of divine intercession[22]. For example, one Neolithic stone axe was discovered close to one such symbolic "burial" of the divine thunderbolt at Bernex, in Gallia. This artefact was more likely included in the ritual inventory of the "burial", whose scope was to protect local rural community against any potential damages caused by similar celestial events[23]. Another Neolithic stone axe, which was discovered at Sucidava, in Dacia, bears an inscription incised in Roman times, which hints to the same materialization of the divine thunderbolt[24].

Around the mounds topping these thunderbolt "burials" were built stone enclosures called *puteal* or *bidental*, and altars were also dedicated. There are numerous examples of this practice across the entire Roman Empire, but in certain provinces they are more numerous in the rural environment[25].

One altar commemorating the lightning strike was discovered two decades ago at Alba Iulia, in the vicinity of the south-western corner of the *municipium Septimium Apulense*, not far from the Mithraeum III (Pl. II/3). The inscription reads as follows: *Iovi / Fulgera(tori) / Hic fulg(us) cond(itum est)*[26]. It is quite obvious that the altar was dedicated on the location of a symbolic burial of the said thunderbolt, which very probably contained material traces of its action, perhaps including prehistoric stone tools, in the manner mentioned in literary sources and demonstrated by archaeological evidence. Accordingly, the beliefs related to the divine thunderbolt and its materializations were rather common at Apulum in the first half of the 3rd century AD, when the mentioned altar was dedicated, and the Mithraeum III functioned in the *municipium*.

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[20] Translated in English by BOSTOCK, RILEY 1855.

[21] According to Pliny the Elder (*Nat. Hist.* 2, 53), thunderbolts striking during the day were ascribed to Jupiter, while the nocturnal ones belonged to Summanus.

[22] PAUNIER 1973: 288-290.

[23] PAUNIER 1973: 292-293, Fig. 7.

[24] BĂRBULESCU 2001.

[25] PAUNIER 1973; RÉMY, BUISSON 1992; RÉMY 1993.

[26] PISO, DRÎMBĂREAN 1999.

Conclusions

It can be therefore concluded that the prehistoric flint tools discovered during archaeological investigations in the area of the Mithraeum III at Apulum more likely come from the Roman contexts.

They could have belonged initially to the inventory of a Neolithic settlement probably located in the Mureş valley, as the raw materials used to manufacture them seem to suggest. Many millennia later, in the Roman times, these tools became "discovered objects" and their cultural "biography" was modified according to the concepts and beliefs of the communities of that period.

These prehistoric flints, as well as the Neolithic polished stone axes, were considered materializations of the divine thunderbolt in Roman times. Due to this perception, these objects were ritually buried in places struck by lightning, providing a symbolic "burial" for Jupiter's attribute. On the other hand, the presumed celestial origin of these flints also invested them with magical, apotropaic powers. They were perceived as an effective means of protecting the owners or various constructions (houses, temples etc) against the devastating effects of lightning. In this context, the three flint tools found in the area of the Mithraeum III could have also had this "practical" function.

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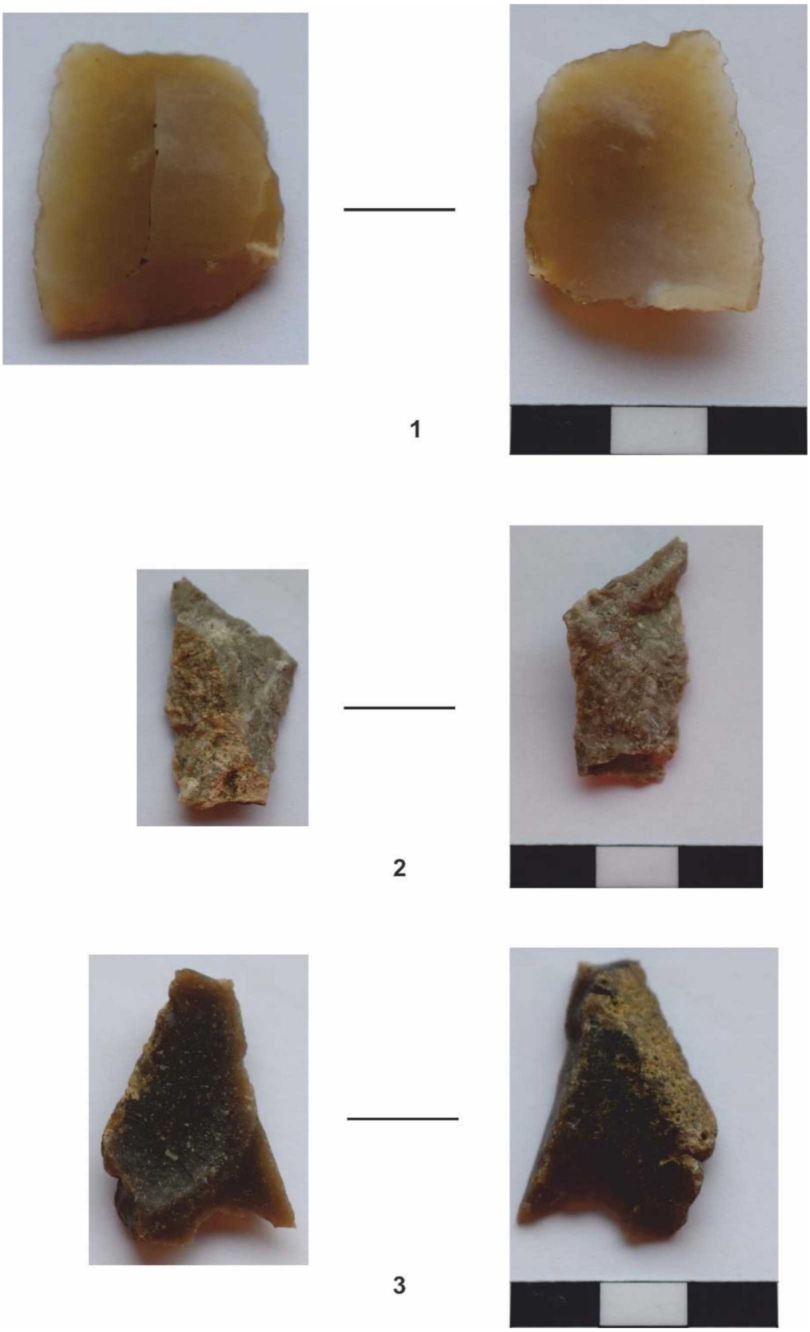

Pl. I. Alba Iulia, Mithraeum III. Prehistoric stone tools discovered in Roman contexts.

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Pl. II. Alba Iulia, Mithraeum III. 1. Location of prehistoric stone tools on the Mithraeum's plan (the numbers are similar to the ones in text); 2. Early medieval oven made of Roman architectural elements inside a house built in the Mithraeum's ruins; 3. Roman altar from *municipium Septimium Apulense* dedicated to the buried thunderbolt
(National Museum of Union Alba Iulia; photo Gabriel-Tiberiu Rustoiu).

IN THE FOOTSTEPS OF BALTHASAR HACQUET AND THE REDISCOVERY OF "BERG LICHOSTIWNE"

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Abstract: Balthasar Hacquet de la Motte (1739/40-1815) was of French descent and a true polymath working in the fields of medicine, chemistry, geology, mineralogy, botany and ethnography. It was mainly due to his endeavors that a gunflint industry was established in the former Galician territories of the Austrian empire. The difficult political situation at the end of the 18th century induced the Austrian emperors to gain independence from foreign gunflint suppliers, most importantly France. Various attempts to install a gunflint industry within the Austrian Monarchy failed, partly due to the lack of the technical know-how, but more importantly due to the lack of suitable raw materials for gunflint production. This situation changed when Balthasar Hacquet was appointed professor for Natural History in Lemberg (Lviv) in 1787. Hacquet explored the remote areas of eastern Galicia with a focus on economic aspects for the Monarchy. He discovered rich deposits of high quality flint, especially in Podolia and Pokuttia, and the first factory was established in Nizniow (contemporary Nyzhniv, Tlumach rajon, Iwano-Frankiwsk oblast, Ukraine) in 1787/88. The flint was initially quarried in the hinterland of Nizniow, and after depletion of the sources brought in from further away. One of the most important flint sources in this region was 'Berg Lichostiwne' (Lichostiwne Hill). During a 2013 field trip the authors were able to locate Lichostiwne Hill with the help of a local collector. Here we present our findings and future prospects on gunflint research in former Austrian Galicia.

Keywords: *Gunflint production, Austrian Galicia, Balthasar Hacquet, Nizniow, Lichostiwne Hill*

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INTRODUCTION

For the longest time in human history, chert and flint played a significant role as raw materials for chipped stone tool production and fire making. Already sunken into oblivion the latest after the Bronze Age (except in certain parts of Europe) for tool manufacturing, flint regained sudden importance as a critical resource during the 17th century for gunflint production. Since the flintlock mechanism started to replace the previous systems for European military equipment at the end of the 16th century and became standard in the early 17th century, the demand for gunflints raised tremendously. As key elements of the flintlock mechanism, gunflints were distributed in large numbers all over Europe between the 18th and the 19th century, and in former colonies even until the first half of the 20th century[4].

Henceforth, every country sought for the possibility of domestic gunflint production. Countless attempts have been undertaken in various regions, however only few production sites were able to endure over longer periods and gain historical importance. In fact, the most extensive production centers could only develop in regions providing suitable raw material for gunflint knapping. The two most important of these centers were located in the region around Meusnes in France, dép. Loir-et-Cher (Centre)[5], and at Brandon in England (Suffolk)[6]. Especially the French gunflints were known to be of the highest quality (i.e. the persistence in use), with the result that France became the principal gunflint supplier for Central Europe in the course of the 18th and early 19th century[7].

Initially, gunflints were not produced in a standardized way. During the 17th century, they were based on simple flakes, the so-called wedges (brit.) or gunspalls (amer.). They are of either half roundish or rectangular, wedge-shaped appearance with a straight ignition edge. The spalls were knapped from small flint nodules or thick flakes, using metal hammers[8]. At the latest since 1740, the manufactories in Meusnes exclusively used blades as basis for gunflint production. This technique, soon known as the 'French method', allowed for a standardization of the gunflints, and at the same time it accelerated the production process. For military purposes (*du gouvernement*), the gunflints were exclusively half-roundish shaped (French: *talon rond*) with only one ignition edge, whereas civilian pieces were rectangular with two opposite firing edges. The sizes varied, depending on the type of the fire arm they were attributed to[9].

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[4] E.g. SEEL 1981; WHITTAKER 2001; WEINER 2012.

[5] E.g. EMY 1978: 13-18; SLOTTA 1999, 354-355; WEINER 2012: 963.

[6] E.g. CLARKE 1935; LOTBINIERE 1977; SKERTCHLEY 1879.

[7] WEINER 2012: 963.

[8] WHITE 1975: 65; WEINER 2012: 964.

[9] DOLOMIEU 1796; WEINER 2012: 964.

Around 1790 the French method of gunflint production was also adopted at the manufactories at Brandon. In England, other than in France, there was no difference between military and civilian gunflints. The shape was always rectangular with only one ignition edge, varying in size for different types of arms[10]. The production process is best described by B. J. Skertchley[11].

Representing a significant European power at the time, the Austrian Empire (Fig. 1) was deeply involved in all major political events and therefore confronted with all problems concerning strategic resources. Ongoing military conflicts during the 18th century had serious impacts on the governmental coffers of the Monarchy, and, like various others, the Austrian emperors were endeavored to gain independency from foreign gunflint supplies. The principal supplier for the Austrian army during that time period was – not very surprising – France[12]. According to Balthasar Hacquet[13], the combined military and civilian gunflint consumption reached the 10 million mark per year at the end of the 18th century. Due to the critical shortage of material, a project from 1770 even considered the reintroduction of the matchlock system[14]. In 1776, efforts to lure professional gunflint knappers away from France failed due to the lack of high quality raw material in the Austrian countries[15]. A public notice ('Kurrende') issued by Emperor Joseph I. from Austria, dated to September 5, 1787, offered a reward of 100 Ducats for the discovery of an outcrop carrying material suitable for gunflint production. The result were costs of 51,000 Gulden within a year and a collection of useless rock samples on sides of the Viennese Court[16].

This situation changed when Balthasar Hacquet was appointed professor for Natural History in Lemberg (Lviv) in 1787. It was mainly due to his endeavors that a gunflint industry was established in the Galician territories of the Austrian empire. These regions passed to the Habsburg Empire between 1772 and 1795[17].

Balthasar Hacquet and gunflint production in Galicia

Balthasar Hacquet de la Motte (1739/40-1815) was of French descent and a true polymath with an expertise in the fields of medicine, chemistry, geology, mineralogy, botany and ethnography. He was one of the most active and widely travelled explorers of

[10] WEINER 2012: 968.

[11] SKERTCHLEY 1879: 27-36.

[12] RAYMOND et ROTH 1809: 68; OEYNHAUSEN 1822: 404.

[13] HACQUET 1792: 62.

[14] SEEL 1981: 1451.

[15] GILLET-LAUMONT 1798: 718; EMY 1978: 76; PENZ, TRNKA 2004: 238.

[16] HACQUET 1792: 63; SEEL 1981: 1452; PENZ, TRNKA 2004: 238-239.

[17] PENZ, TRNKA 2004: 239.

his time[18]. Hacquet explored the remote areas of eastern Galicia with a focus on economic aspects for the Monarchy. During these targeted travels, he discovered rich deposits of high quality flint in eastern Galicia, in Podolia (old name for a region comprising parts of southwestern Ukraine and northeastern Moldavia) and Pokuttia (southeastern part of Galicia, now Romanian-Ukrainian borderland)[19]. When he was appointed professor for chemistry and botany at the university of Kraków in 1805[20], he continued his 'flint investigations' and was involved in the establishment of gunflint workshops in the surroundings of western Galicia`s capital. The most significant, i.e. most productive, gunflint manufacturing activities however unfolded in eastern Galicia. Already in 1787/88, first gunflint manufactories were established in eastern Galicia at Brzezan and Nizniow.

The manufactory at Brzezan (contemporary names: ukr. Berezhany, pol. Brzežany, ger. Bereschany) was located in the 'Kreis Brzezan', former Eastern Galicia, now Ternopil oblast, Ukraine, situated at the river Złota Lipa ca. 100 km south-east of Lemberg (Lviv). Flint outcrops were located at the southern and western shores of a lake close to the town. This locale was the most important facility during early gunflint production, however it only existed until 1803. Hacquet[21] refers to *"thousands of centners of flint that were exploited, producing ca. 30 million gunflints for the Austrian army."* The factory was operated by a 'director Kral' and employed 50-80 knappers during its heydays[22].

The workshops were transferred to Nizniow (contemporary ukr. Nyzhniv, Fig. 1) around 1803, not because the raw material deposits were exploited, but due to the harsh climatic conditions at Brzezan[23]. After closing down the workshops at Brzezan, Nizniow became the principal place of Galician gunflint business. Nizniow was located in the 'Kreis Stanislawow', former Eastern Galicia, now Iwano-Frankiwsk oblast (Tlumach rajon), Ukraine, at the river Strepe/Strypa (a tributary valley of the Dnjestr). An abundance of layered black and grey flint of high quality occurs at Nizniow and its hinterland[24]. According to historical sources, the raw material was initially obtained from different sources in the surroundings of the village, and, once these sources were exploited, brought in from Mariampol[25], the latest since 1817[26]. The gunflint factory was installed in a secularised monastery, where the raw material was stored and gunflints were knapped in

[18] DOLEZAL 1966.

[19] HACQUET 1789a.

[20] KLEMUN 1988: 6.

[21] HACQUET 1806a: 93; 1806b: 6.

[22] HACQUET 1806a: 93; 97-98; HACQUET 1806b: 6; 11-12.

[23] HACQUET 1806a: 98.

[24] HACQUET 1806a: 99.

[25] THIELEN 1827: 177.

[26] LIECHTENSTERN 1817: 1188.

heatable workshops during wintertime[27]. In 1827, an output of 2 million gunflints is reported[28], and 1,5 million in 1844[29]. Apparently, the factory was still active in the 1840s[30], however in 1850 the production had ceased[31].

Before the raw material was obtained from Mariampol, one important quarrying site in the hinterland of Nizniow was Lichostiwne Hill (Fig. 1–3). Hacquet used this locale as prime example for the description of the geological situation in the region, and illustrates it as follows:

"*This rolling hill, which does not rise to more than 80 fathoms, is covered with gorgeous meadows, bushes and trees, and slightly slopes from west to south. Its interior consists of a chalk-like white limestone. The flint occurs there at an elevation of 30 to 40 fathoms from the road level in the valley in five distinct layers or banks…*"[32].

Hacquet[33] further mentions that the flint was of blackish-brown and grey colour and imbedded into whitish-grey, marly limestones. Supposedly, the third flint layer was most productive and suitable for gunflint production. The miners, peasants from the local villages, extracted the flint from quarrying pits and potentially also from horizontal galleries (Hacquet`s description does not provide sufficient details concerning the exploitation method). Due to the prominence of Lichostiwne Hill in Hacquet`s work on Galician gunflint production, the question of its possible location was raised in the framework of recent gunflint investigations.

THE REDISCOVERY OF LICHOSTIWNE HILL

During the last decade, the interest in gunflints as archaeological, historical and economic factors has exponentially increased. Especially archaeologists working with prehistoric stone tools feel attracted to material they are acquainted with, which additionally appears in a context that – in contrast to their usual study objects – is reconstructible through written sources[34]. This situation is also true for the Ukraine[35].
It is hence not surprising that the search for a raw material source such as Lichostiwne Hill was on the top of the list of researchers engaged with gunflint studies.

[27] HACQUET 1806a: 97-98; HACQUET 1806b: 11.

[28] THIELEN 1827: 177.

[29] PRIERER'S UNIVERSAL-LEXIKON 1844: 33.

[30] FRÄNZL 1841: 339.

[31] FOETTERLE 1850: 85.

[32] HACQUET 1806a: 99-100; 1806b: 13-14.

[33] HACQUET 1806a: 99; 1806b: 13-14.

[34] E.g. LUEDTKE 1999; BALLIN 2012.

[35] E.g. KOLESNIK *et al.* 2016; KOLESNIK, HOLUBIEVA 2017.

In 2006 a group of prehistoric archaeologists (Magda and Gheorghe Lazarovici, Igor Kochkin, Taras Tkachuk and the authors) had the opportunity to visit Nizniow during an excursion. A local collector, Dmytro Lupypsiv, presented them a large number of flint debitage and debris, which he had found at a cemetery at Nizniow and kept at his house. The prehistorians were immediately aware what they saw: The remains of gunflint production, containing the complete *chaîne opératoire* except the finished products. It was possible to study the material for technological assessments, however, it is unfortunately no longer available for future scientific investigations. The question concerning Lichostiwne Hill was also raised during this visit. Initially, Lupypsiv guided the group to the Lysinka Hill at the southern periphery of Nizniow. Traces of raw material extraction are also present there (Fig. 1 and 3), however, the topographic situation did not correspond to the historic descriptions. Lupypsiv also mentioned a hill named ‘Lychoslivnij’ only approximately 2 kilometres southeast of Nizniow, however due to time constraints it was not possible then to visit this location.

In 2013 the possibility to examine the Lychoslivnij Hill finally arose. Guided by Dmytro Lupypsiv, the group was able to conduct a small survey, but adverse weather conditions prevented a closer investigation. Nonetheless, this excursion produced evidence for extensive quarrying activities in the form of quarrying pits lined up on several terraces on the flanks of the hill, and additional vertical gallery-like features, of which one still was not completely collapsed (Fig. 4). The heavy rain and leaf-cover obliterated all traces on the surface, and only one almost complete flint nodule was recovered from the bottom of a quarry pit. This however was another strong indication for what was mined at this locale. Taking all facts together, the topographical description and illustration from Hacquet, the presence of flint raw material, which was additionally reinforced by Lupypsiv´s daughter, Hanna Pridun, who undertook a small survey in the surroundings and found abundant flint nodules in the foothills of Lychoslivnij Hill (Fig. 4), and the similarity of the toponym, leaves no doubt that the latter is identical with the historic ‘Berg Lichostiwne’ (Lichostiwne Hill).

Technology of the gunflint production at Nizniow

In the course of the first visit at Nizniow, characteristic samples from Lupypsiv´s collection were investigated. The sample consisted of exhausted cores, decortification flakes, correctional flakes, discarded blades, etc. (Fig. 5 and 6), which allowed for a reconstruction of the applied technology. All specimens were knapped with a metal tool. The lithic debris attested for a clearly blade-based core exploitation strategy, however, the cores were heavily exploited indicating that in the last reduction stages the knappers also produced elongated flakes which could be used for gunflint making. This assessment is consistent with Hacquet`s description of the method for gunflint production in Galicia. He had detailed knowledge concerning the ‘French method’, which he published in an article

only two years after he came to Lemberg (Lviv)[36], and it is very likely that he played a significant (if not the leading) role in its introduction in Galician gunflint manufactories from the beginning. The length of the investigated blades is around 6 cm, however they were apparently not suitable for further processing and thus rejected.

Location of the gunflint workshop

According to Hacquet, "…the main place of gunflint production is at Nizniow in an abandoned monastery. In the beginning a Captain and three privates were dispatched in order to train peasants in the art of gunflint knapping"[37].

Nowadays, Nizniow has two churches (the cemetery where Lupypsiv discovered the studied lithic assemblage belongs to one of them), but there are at first glance no traces of a monastery. Initially, this seemed inconsistent with the historical reports and raised doubts concerning Hacquet`s description. However, a monastery once existed in Nizniow. Devastated in 1959, the Klasztor sióstr Niepokalanek *(Monastery of the Sisters of the Immaculate Conception)* was located at the western end of the town[38].

Historical maps from the 'Josephinische Landesaufnahme' from 1764-1784 and the Military Survey of 1869-1887 still bear the label indicating a religious building where today only a few fragmented ruins are preserved. The tragic history of this monastery was recently described[39]. There is no mention about the monastery`s secularisation, however, it is fact that under the reign of Joseph II a large number of ecclesiastical institutions were liquidated, and the same can be assumed for the Galician territories of the Austrian Empire[40]. After the study of these historic accounts it was clear that this was the location of the workshop for gunflint production at Nizniow. The waste of the knapping activities was obviously scattered around the larger vicinity after the abandonment.

Conclusion: What remains to do?

As demonstrated by this archaeo-historic study, important historic monuments and events can be traced through combining several disciplines, in this case historic source critique, toponymic research, and expertise in archaeology of mining. However, the rediscovery of a significant locale such as Lichostiwne Hill is only the first of a series of necessary subsequent steps of investigation. So, what remains to do in the future?

[36] HACQUET 1789b.

[37] HACQUET 1792: 61.

[38] http://www.studiowschod.pl/miejscowosci/nizniow/. Query 28.8.2018.

[39] http://www.studiowschod.pl/artykuly/1784/. Query 28.8.2018.

[40] E.g. TROPPER 2005.

It would be urgently necessary to conduct systematic surveys in the entire hinterland of Nizniow to record and map – with the application of GIS-based geospatial techniques – all features related to gunflint production, most prominently the raw material exploitation and mining areas, including but not limited to Lichostiwne Hill. Additionally, more characteristic knapping debris from gunflint manufacturing would be needed to examine the technology in more detail. One question concerns possible technological differences between earlier and later production periods: Did the knapping technology change (e.g. did the quality decrease) after the end of the Napoleonic Wars, when gunflints suddenly lost their major strategic significance for military purposes, but remained important for civilian uses? Also, a sound typological analysis applying a system specifically designed for recording gunflints would significantly enhance possibilities to study gunflint assemblages aside from the well-known French and British industries[41]. This immediately implies the last trajectory, i.e. tracing Galician gunflints in archaeological assemblages. Interestingly, to date there is not a single gunflint securely identified to originate from an eastern Galician workshop amongst literally thousands of examples. This also includes the largest gunflint cache ever discovered and excavated outside of France and England, the Neugebäude Castle gunflint deposit[42]. This additionally illustrates the need for more archaeological work on this interesting find category, which is still at its infancy in the area formerly known as Galicia.

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[41] E.g. BALLIN 2012; 2014a; 2014b.

[42] PENZ, TRNKA 2004.

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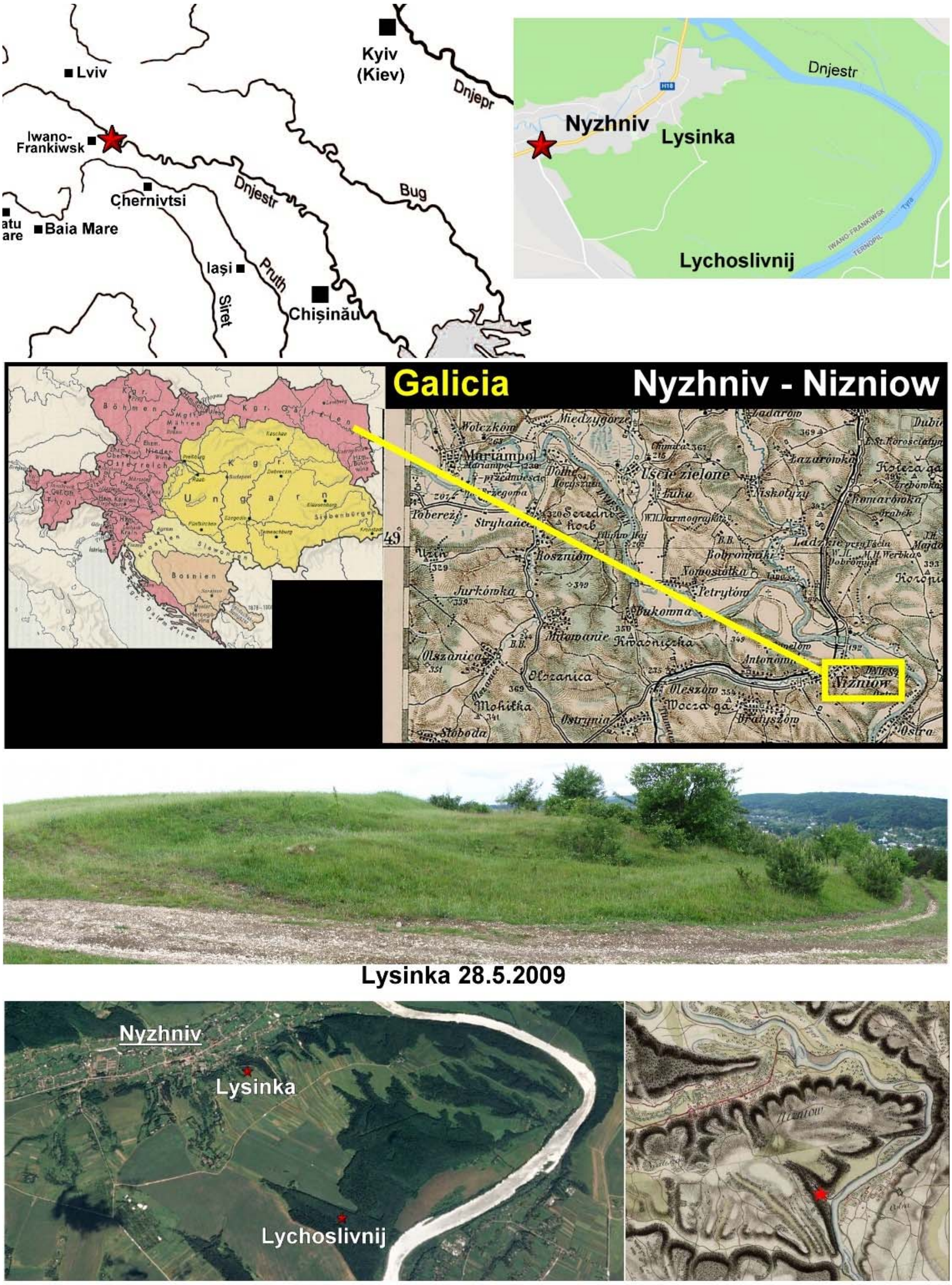

Fig. 1. Location of Nizniow/Nyzhniv, Lysinka (with landscape image) and Lychoslivnij in former Austrian eastern Galicia. Maps adapted from Heeresgeschichtliches Museum Wien (Austria), Google Earth 2018 and Google Maps 2018.

Fig. 2. Lichostiwne. Extracts from Balthasar Hacquet, *Bemerkungen über die Entstehung der Feuer- oder Flintensteine*, Berlin 1806, Tafel 1.

Fig. 3. Nizniow/Nyzhniv (Ukraine). Flint nodules from Lysinka and Lychoslivnij.

Fig. 4. Nizniow/Nyzhniv (Ukraine) – Lychoslivnij 26.8.2013. Quarrying pits and vertical gallery-like features. GPS coordinates flint nodule from quarrying pit: N 48.9302249439, E 25.1123236399, elev. 300. 26-AUG-13 9:50. Flint nodules in the Valley in the foothills of Lychoslivnij 28.8.2017 (photo Hanna Pridun, Nyzhniv).

Fig. 5. Nizniow/Nyzhniv (Ukraine). Pilna road - cemetery. Selection of debitage from gunflint production (blades and flakes) collected by Dmytro Lupypsiv housed at the Vienna Lithothek (VLI).

Fig. 6. Nizniow (Ukraine) – Pilna 28.5.2009 – exhausted cores and wedges
from the gunflint manufactory.

STONE AGE CANARY ROCK ART AND MUSICAL MESSAGES

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Abstract: The Guanches, the stone age population formed by Paleo-Berbers that settled in the Canary Archipelago before the Spanish colonization, had rich cultural traditions. The author inquires some rock art sites that are a distinguishing trait of Canary Islands and had a deep significance for the natives: lithophones. They are volcanic rock formations endowed with a special sonority, similar to that of a bell, when struck with a stone or another object. Thanks to the natural acoustics of the landscape where they are located, the sound can be heard at considerable distances. The lithophones had a social and cultural solid place in the Canary native world. They offered rhythmic or a-rhythmic sound production within the proscenium for sacred acts exploiting the magic-religious power associated to chthonic female divinities. Lithophones were struck rhythmically also to support dances and make musical competition during social events (thanksgivings and royal consecrations). Other lithophonic structures within commanding view and acoustically reinforced setting had a different vocation, serving mainly to warn inhabitants of external threats and aggressions.

Canary Archipelago possesses two *atout* for our chances to understand the aboriginal exploitation of rock art sites for music-making: the frequent coexistence of lithophones with inscriptions in Libyco-Berber script and the presence of a collective oral memory passed from generation to generation since the ancestral time despite the European 'civilization'.

Keywords: *Canary Islands, Guanche culture, lithophones, rock art, archaeo-semiotic, archaeo-acoustics, Libyco-Berber script*

THE SOUND OF ROCK ART

Rock carvings are among the most significant expressions of Guanches, the aboriginal stone age culture in the Canary archipelago[2]. During the first millennium BCE, the earliest population that disembarked at the Canary Islands was formed by Paleo-

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[2] The author made a field investigation on Canary rock art and in particular on lithophones in May 2017.

Berbers with roots in the Mediterranean and North African koine. A peculiarity of Canary rock art is the occurrence of lithophones: volcanic rock formations endowed with a special sonority when struck with a stone or another object, which were used by the Guanches to produce sounds of different tones. Certain types of igneous rocks, stone blocks and stone slabs have, by their nature and/or treatment, acoustical properties when struck in distinct points. Due to the different density, structure, cavities and seals of the stone, it is possible to extract sounds of different tonalities.

This quality of volcanic rocks is known as *litofonía*. Etymologically, the word is composed by the contraction of the term *'lito'* (meaning stone, fossil) and the term *'fono'* (meaning voice, sound)[3]. The sounds are obtained by means of percussion "stone against stone"[4]. What is common to these rocks is the sound they produce. It is harsh metallic, similar to that made by hitting a cup or a bell[5]. Thanks to the natural acoustics of the places where the Canary lithophones are located, the sound can be heard at considerable distances[6].

The exact reason why these rocks sound like this has long been researched and discussed. In Europe, sound-stones are basalts or phonolites[7]. However, their acoustical property seems to be related not only to the composition of the stone – its level of iron content – but also to its formation process. A fast or slow crystallization influences one of the qualities necessary for the sonorous asset: the thinness of the outer layer of the stone.

Catherine Fagg defines the lithophones as "naturally situated and naturally tuned rocks, boulders, exfoliations, stalactites and stalagmites which resonate when struck and show evidence of human use as idiophones"[8]. Resonant rocks, multiple or single, were discovered in prehistoric times when they were exploited to produce music as percussion instruments because of their metallic or ringing sound when struck. Therefore, they are among the oldest musical instruments to generate different tones and timbres, i.e. emitting sounds on a musical scale. Together with the rock engravings and paintings, the sound-stones give information about the primal concerns of human bearing. They also instruct on how music was generated from the most basic material provided by nature.

A number of different types of lithophones have been identified from prehistoric contexts. The oldest known manmade lithophone dates back to the Neolithic of the Far

[3] See FAGG 1994 for a discussion on the term lithophone and ADCOCK 2010 for a review on instruments made by stone.

[4] MERLINI 2017.

[5] To give an idea of the sound of these rocks, Ordaz mention a comment by Jung in the *Grundiss der Mineralogie und Petrographie* (1935): "When approaching a quarry of phonolite, where the stonemasons work with different plates sizes and thicknesses, you might think you're listening to the resonance of several cowbells…" (ORDAZ 2010).

[6] FLEITAS 1999: 30.

[7] The *sanukite* (sound stone in Japanese) is exclusive to Southeastern Japan. It is considered as a world heritage. See KISHI *et al.* 2001; HASEGAWA *et al.* 2015.

[8] FAGG 1997: 2.

Orient[9]. It is a group of stone percussion instruments discovered in Vietnam in 1949[10]. The prehistoric sonorous rocks include *portable* and *stationary* lithophones, respectively groups of stones or individual stone plates and sets of natural rocks.

Prehistoric stationary lithophones are widespread from China and Azerbaijan to the United States, from Europe to Australia[11]. They include: 1) natural stalagmitic drapery with ridges that produce clear tones[12]; 2) ridges and stalactites that have been shortened to generate a particular tone when struck by a mallet[13]; 3) non-figurative pecked zones on fixed rock surfaces, which emit a bell-like sound when struck with a cobble or other hard implements[14]; 4) natural, but positioned, stationary stones[15]; and 5) manufactured stationary columnar lithophones[16]. In short, the definition of lithophone includes both the sonority emitted by a rock – due to its petrological composition – and the acoustic properties of the spatial context – usually of large dimensions – where rocks are located. In several instances these features coexist, amplifying the vibrations and transmitting them at distance[17].

Archaeology is just starting to explore the topic of prehistoric soundscapes, since it requires parallel musical and acoustic studies for its understanding. The new branch of research about lithophones is located halfway between archeology and physics, studying

[9] GIL CORRAL, SERRANO VIDA 2000.

[10] SCHAEFFNER 1951. The Neolithic Vietnamese lithophone is made of 11 plates of carved stone with increasing size and thickness, producing each one a sound of defined frequency. It is currently exhibited at the Musée de l'Homme in Paris.

[11] FAGG 1956; GOODWING 1957; DAMS 1984; DAMS 1985; MONTAGU 2007.

[12] See the Upper Paleolithic "Organ Sanctuaries" such as at Nerja (Spain), Niaux, Roucador, Cougnac, Pech-Merle (France), Escoural in Evora (Portugal), and other European caves. The app *Soundgate* lets users experience the acoustic effects of the Upper Palaeolithic caves in Spain. A number of stalactites, stalagmites and columns were exploited to produce sounds in the Lithophone Gallery of Las Ruinas Cave (Oaxaca, Mexico) by the Mixtec people. Speleothems bearing indentations and markings suggest they were struck percussively. See STEELE 1997.

[13] Evidence of extensive exploitation of ridges and stalactites that have been shortened to produce a particular tone when struck by a mallet occur in Upper Paleolithic art caves at Nerja (Spain) and Rocamadour (France). See DAMS 1984. Sometimes sounds are so pure and varied that even real melodies can be created.

[14] This typology is widespread. A granite ringing rock with cup-marks to be repeatedly played in prehistoric times is located on the island of Gotland in Sweden. Stone gongs from the Saami culture exist in Karelia (Scandinavia). Musical boulders occur in Le Guildo, on the edge of the Arguenon estuary (Côtes-d'Armor, France).

[15] Among the natural but positioned stationary stones, legendary is the large flat Gaval Dash stone suspended on three small supports. It is located in Gobustan(Azerbaijan), a rich archaeological area renowned for a very special acoustic and more than 600,000 rock engravings and paintings representing anthropomorphs, zoomorphs, ritual dances, scenes of war, boats with rowers, camel caravans, images related to the sky, etc.The typical sound of the Gaval Dash stone, when beat with a small stone, is similar to that of a tambourine.

[16] The last category of the stationary sound stones is comprised by manufactured stationary columnar lithophones as in several Indian temples. They are built with stone pillars which resonate with different pitches, turning the whole building into a musical instrument.

[17] DAMS 1984; DAMS 1985; STEELE 1997; DIAZ-ANDREU, BENITO 2012.

the acoustic properties associated with archaeological sites and goods by means of complex systems of measurement. There is even no agreed terminology. However, it has achieved the recognition that echoes and resonances occurring in front or inside ancient landscapes (as the Upper Paleolithic caves) or monuments (as Stonehenge, or the Mayan pyramid of Cuculcán in the city of Chichen Itza) are not simple coincidences but effects intentionally produced by the architectural design. One of the core reasons for Stonehenge's existence and success was the property to be experienced through the sense of hearing. It was designed around acoustics to amplify sounds. When clapping in front of the pyramid of Cuculcán the echo reproduces a sound that resembles the Song of a Qetzal (a bird that represented the divine force)[18].

Igor Reznikoff (University of Paris X) studied the acoustics of some French Paleolithic frescoed caves, such as those at Niaux, Arcy-sur-Cure, and Rouffignac. He concluded that the rock paintings were made right on the walls and the vaults that returned sounds more effectively. Consistently, Canary Islanders often engraved assemblages of rocks and stones with acoustic proprieties with symbolic signs and artistic motifs. The ringing and carved rocks and stones of ancient Canary culture belong to the fourth typology of lithophones: natural "gongs" on rock faces. Thanks to the natural acoustics of the landscape where the sonorous rocks are located, the effect can be heard at considerable distances. Ancestral Canary population, so aware of the singularities of the insular geology and geography, knew, explored, and exploited these potentials.

Canary Archipelago possesses another *atout* for our chances to understand the prehistorical exploitation of rock art sites for music-making. If we get to know that a natural "rock gong" produces sounds on a musical scale, the subsequent question is to understand how it was used in the past, and even if it was actually in use. Association with musical instruments, petroglyphs, cave paintings and archaeological remains give only partial hints. The lithophones of the Canary Islands were alive in the troglodyte pre-Hispanic period and sometimes even after it. Part of the question concerning their exploitation is therefore solvable thanks to oral traditions or legends about their role in ceremonies or in creating an alert. The Canary Islanders, descendants from the Guanches, keep memory about certain stones and rock surfaces that were in use even in historical times to produce a peculiar metallic sound when being struck, and their peculiar association with rock art engravings. See in particular the research by Canarian musicologists Rosario Alvarez and Lothar Siemens[19]. In the Canaries the known lithophonic structures surpasses one hundred, although they might be over 300[20].

[18] MERLINI 2017.

[19] ÁLVAREZ, SIEMENS 1985-87; TEJERA GASPAR *et al.* 1985-1987; ÁLVAREZ, SIEMENS 1988.

[20] MERLINI 2017.

THE *LITHOPHONE OF THE ROQUE DE MALPASO* TO ALERT INHABITANTS OF EXTERNAL THREATS

At present, the *lithophone of the Roque de Malpaso* is the most important of the Canary Islands. It is the only one inserted within an archaeological area protected by law[21], but unfortunately it is completely abandoned. The ringing stones are positioned in the central section of a dome of phonolithic rocks at 192 m of height within the Guanche archaeological area of the Roque de Malpaso[22] (fig. 1).

Roque de Malpaso is located in the dry Southern Tenerife, Arona, San Lorenzo Valley. The place is also known as Moreque Mountain, due to the legendary local king Atguatxoña who is said to have spent a long time there. It is a dramatic craggy outcrop up on a hill due to: form; composition of the stone; location; and richness in musical and visual art[23].

Regarding the form of the group of rocks, it sticks up out of the hill like an elongated ridge. It looks like a sort of rose-brown crown.

Concerning the composition of the stone, it is an intrusive formation of acidic nature that preceded the basaltic emissions of the Series III.

With reference to the location, the hill rises at the entrance of the San Lorenzo Valley as the prominent point on the landscape. The view on the environment is 360 degrees and spectacular. One can observe: to the South-West the Guaza Mountain; to the north-west the Roque del Conde traditionally called Ichazagwa (or Ajío, Jío) Mountain; in front the Igara Mountain; and behind the interior of the whole valley. A person placed on the Roque de Malpaso can feel to be in the center of the whole environment. Unfortunately, nowadays the environs that surround the archaeological remains are intensely anthropized, with terraces and greenhouses of tomato cultivations, factories of aloe (Aloe Park Tenerife), legal junkyards, and a large quantity of illicit rubbish and waste material (fig. 2).

Concerning the presence of rock art (visual and musical), two treasures of the Guanche culture occur together on the top of this craggy outcrop: a rock engraving station with panels depicting so-called "checkers", and a lithophone made of a structure of stones arranged in a circle with evidenced points of percussion on their different faces. Twelve lithophonic rocks form an ideal circle, although arranged at different heights, around a small central enclosure bearing the two engraved panels[24]. According to the ^{14}C dates of the organic remains left on the place, it was organized 1000-1500 years ago (fig. 3).

The engravings, executed with the technique of incision at different depth, are arranged in two panels that are very close to each other, located within a small central

[21] Decreto 84/2003 of May 12, 2003. PÉREZ *et al.* 2015: 53.

[22] TEJERA GASPAR 1988; MEDEROS *et al.* 2002a.

[23] TEJERA GASPAR *et al.* 1985-1987; ÁLVAREZ, SIEMENS 1987; ÁLVAREZ, SIEMENS 1988; MIRANDA 2011; MIRANDA 2013.

[24] PÉREZ, JAVIER 2007.

enclosure of the outcrop, and surrounded by the lithophone. The composition is typical of most rock art areas located in the south of the island and especially in the surroundings of the San Lorenzo Valley. It is characterized by schematic-geometric motifs that include rectilinear, reticulate, quadrangular, and triangular patterns. They are arranged parallel to each other and are cut perpendicularly by a thicker central line. A number of cruciforms are also part of the set of signs.

Scratches, graffiti and inscriptions also occur on the panels. They are from more recent times, made by clandestine excavators and amateurs. One can distinguish them from the schematic-geometric incisions due to absence of patina, minor depth of the signs and their thickness, due to the graffiti technique.

A structure of twelve phonolitic stones surrounds the Guanche rock art panels. It is located at the top of the outcrop and is around 20 m high. The stones have different heights, are arranged in an ideal circle around a small central enclosure with the engraved panels, and evidence 24 points of percussion on their faces. Only one of them is positioned outside the enclosure, 4 meters below.

The volcanic structure has been traditionally interpreted as a lithophone due to its phonic properties, ringing loudly and according to a musical scale when struck with a stone hammer. Each of the dozens of points on different rocks gives a different sound (fig. 4).

Rock art engravings and sonorous stones are associated within a high symbolic space. However, functionality, use and function of this system are difficult to be specified at present. Four main hypotheses compete.

a. The first suggestion starts from the interpretation of one of the engravings situated on a panel surrounded by the three bigger sound stones of the central area of the lithophone. It depicts a square with V diagonal lines drawn in its interior. According to Manuel Espinel Cejas and Francisco Garcia-Talavera Casañas this V motif indicates the basic variant of the draughts game. "It is the game of the children par excellence[25]". The relationship between an entertainment for children and the utilization of a stone assemblage in music-making is not explained (and possibly unexplainable).

b. Javier García Miranda proposes another interpretation of the "checkers" motif, both in its circular and square variant: a Guanche calendar year hinged on the indication of the main celebrations from the summer solstice to the spring equinox. Solstices and equinoxes designated the main communitarian events associated with the harvesting of grain, the beginning of pasture, and other issues related to agriculture and livestock. Consistently to this reading, the lithophone on the peak of the Roque de Malpaso was exploited for festive and ritual use[26].

[25] ESPINEL CEJAS, GARCÍA-TALAVERA 2009.

[26] MIRANDA 2013: 44.

c. Another interpretation associates the checkers to rain and/or sun. Therefore, this symbolic space system had to be part of a ritual related to natural phenomenon in relationship with rain seasons and/or dry periods. The lithophone might have played a key role within ceremonies to request rain and/or sun for the pastures of cattle.

d. The lithophone and the carved panels are located within one of the geomorphological landmarks at the beginning of the San Lorenzo Valley and are oriented towards the interior of it. A high number of rock engravings stations are placed in the different natural orographic delimitations of the same valley. Their position is not casual, but corresponds to an intentional criterion related to the control of the territory and mainly of the pasture zones.

In conclusion, the Roque de Malpaso marks the entrance to the San Lorenzo Valley, one of the most important set of engravings of Tenerife[27]. Rock art panels and lithophone might have a complementary role within some kind of rituals related with pastoral traditions developed in the interior of the valley, and connected to the control of the related lands and grasslands. According to a local popular tradition, until the late 1800s the loud and metallic sound of these stones also signaled the conquerors' arrival or possible pirate attacks. In several cases, conquerors and pirate were the same pack. And they were Castilians. According to a tale passed from generation to generation, the natives were hidden on the top of the hill during an incursion of pirates-conquerors, spotting their intentions and movements. They have heard from the chief of the invaders that the place was a difficult and risky access to the valley, a bad step. Since that, the place was called Roque de Malpaso[28].

THE CONNECTION BETWEEN THE *LITHOPHONE DE LA PEÑA DE LUIS CABRERA* AND LIBYCO-BERBER INSCRIPTIONS

There are two known protohistoric *litófonos* in Lanzarote, one is called *Litófono de la Peña de Luis Cabrera* and the other, nameless, is positioned in the Caldera of Soo. The most remarkable example of rocks exploited by Guanches as a sound artifact occurs within the Peña de Luís Cabrera, which is on the top of a little hill of 150 m. It is located on the Northern area of the island, between the villages of Guatiza and Teguise (municipality of Teguise) (fig. 5).

The lithophone is situated into the basalt within an archaeological area located at the south-eastern base of the Volcano Guenia, between it and the Mountain of the Cross. It belongs to the early Quaternary Basalt Series II-B of Lanzarote, max 1 million years old, whose conveying products mainly consist of alkaline basalts[29]. The caldera of Guenia is a

[27] MEDEROS *et al.* 2006: 55.

[28] MERLINI 2017.

[29] ROTHE 1986: 63.

large territory characterized by boulders and walls of gorges rich of engravings. It is also an important astrological station. At the sunrise (around 07:30 am) of the summer solstice, circa the 23rd of June, the almost horizontal rays of the sun penetrate a large aperture cut out in the rock at the top of the crater to highlight a cave attended in ancient times, where stone engravings can be found.

Panels with engravings of geometric type and Libyan inscriptions appear in the basaltic outcrops with acoustic properties[30]. Not very far, a fish motif occurs. Therefore, the main feature of the symbolic system at work at the Peña de Luís Cabrera is to be hinged on geometric and figurative engravings, script signs, and a lithophone. A tumulus tombs was even present and ceramic findings have been unearthed, but any archaeological information is lost[31] (fig. 6).

The inscription is concentrated next to the lithophonic Complex III. It is structured in two sectors with eight panels and a total of 24 Libyco-Berber[32] lines made of small and fine engravings, as well as various isolated signs[33]. It comprises the most numerous set of an alphabetical script on the rocks of the island[34].

The engravings of geometric typology and the Libyco-Berber alphabetic script move along vertical lines, as usually for this type of inscriptions[35]. The text consists of 17 signs and 27 recurrences. In turn, and depending on the recognition under the patina on the surface, a set of 15 probable signs and 19 recurrences is accountable. An isolated sign is carved on the panel I[36]. In several occurrences (see for example the inscription n. 2 from the LBI-PROJECT), the signs are arranged in different directions. Therefore, it is very difficult to separate the lines. The transliteration is only an attempt to solve this problem (fig. 7, fig. 8).

[30] ULBRICH 1996. SPRINGER BUNK 2001.

[31] VERNEAU 1891: 137.

[32] The first examples of the Libyco-Berber script were re-discovered in the Canary Islands more than 130 years ago. The Libyco-Berber script is documented throughout the archipelago, but only through incisions or scratchings. It belongs to the autochthonous writing system of the Amazigh from Northwest Africa. The Libyco-Berber script is a consonantal alphabet that is generally written vertically from top down, and also from right to left or from left to right. This writing could have been introduced into the Canary Islands in the middle of the I millennium BCE. The largest panel with a Libyco-Berber text occurs at Las Toscas del Guirre (San Sebastián de La Gomera). It is associated to a lunisolar calendar. These inscriptions were engraved on rock surfaces using the pecking technique and, in later periods, probably after the Era changed, using incising or scratching.

[33] PERERA BETANCORT *et al.* 1999: 496, 499.

[34] TEJERA GASPAR, PERERA BETANCORT 2017: 4, 6.

[35] According to some local researchers the text is arranged horizontally. See CABRERA PEREZ *et al.* 1999: 67.

[36] CABRERA PEREZ *et al.* 1999: 274.

Some of these script signs show a bright patina[37]. It created some skepticism. However, they seem to be genuinely pre-Hispanic, apparently because of a special micro-climate at the related panel and the presence of certain geological conditions in the underlying rock[38] (fig. 9).

The representation of a fish is related to one of the epigraphic texts. Script and figure have identical technical features, indicating that they were carried out simultaneously to compose a complex message[39] (fig. 10).

The lithophone of the Peña de Luis Cabrera consists of three groups of rocks that, hammered by a stone, sound like metal[40]. At most locations, it is possible for a single person to hit multiple impact points without changing location. In Complex III, a well-positioned person can extract 18 sounds of different tonality standing on the same place[41].

This lithophone was analyzed by Rosario Álvarez and Lothar Siemens[42]. They documented the existence of 5-6 sonorous blocks with a total of more than 30 impact points. They organized the rock groups in three east-facing complexes.

Complex I is part of a small rocky chain located at ground level, circa 6 m down from the main stone assembly. It has only two sound rocks (n. 1 and 2).

Complex II is positioned in the southern part of the promontory. It comprises four blocks (n. 3, 4, 5, and 6) with six sound percussion points arranged around a semicircle. Behind them and on top of the outcrop, three blocks are arranged (n. 7, 8, and 9), each of them with a sound point. Three more blocks (n. 10, 11, and 12) are identifiable to the north, following the same height of the summit and between complexes II and III. The isolated sonorous blocks n. 13, 14 and 15 are situated at the northernmost end of the outcrop.

Complex III is located in the middle area of the site. It is the most important section of the lithophone because it comprises 8 musical rocks that have a total of 18 percussion points that sound. In this way, as abovementioned, a single person could hit these 18 points standing on a single location, since the rocks form a kind of cavity.

Two additional stones that show signs of percussion are sited very close to this ringing set.

Apparently, complex II and III have been the most used, due to the variety of their sound and facility to perform an execution standing, due to predominance of vertical stones. Hans-Joachim Ulbrich measured the acoustics recording the percussive sound produced by a stone pebble by means of a Cardioid Microphone Uher Report Mod. 4400

[37] ULBRICH 1996: fig. 55.

[38] ULBRICH 2015: 10.

[39] ATOCHE, RAMIREZ 2009: 193.

[40] ÁLVAREZ, GASPAR 1990; PERERA BETANCORT, LEÒN HERNANDEZ 1996: 266f.

[41] PALLARÉS 2017.

[42] ÁLVAREZ, SIEMENS 1985-87: 286-287; ÁLVAREZ, SIEMENS 1988.

and analyzing the frequency spectrum running the Blackman-Harris algorithm in Syntrillium's Cool Edit Pro software. The frequency-curves exhibit a median resonance frequency at 6550 Hz[43]. It is the highest frequency reached by human voice and violin.

Is it probable that, since the area around this section of the lithophone is an open space, it was exploited as a meeting place for rituals possibly propitiatory of rain. The place is also very appropriate for gatherings of different family lineages with their livestock to celebrate community parties or to establish exchanges of cattle[44]. However, at the moment there are neither archaeological data nor literary information to establish a clearly documented interpretation.

We conclude with a question. The 24 lines of the Libyco-Berber alphabetic script indicate La Peña Luis Cabrera as the site with the longest text of this alphabet. It also hosts one of the most resonant and utilized lithophones. Was there any link between the lithophone and the writing message[45]? (fig. 11, fig. 12).

EXCEPTIONAL RESONANCE OF THE LITHOPHONE IN THE CALDERA OF SÓO

In North-Western Lanzarote, in the Caldera of Sóo (Teguise), a volcano is locally known as *Montaña de las Campanas* (the Mountain of the Bells). At its feet, the white houses of the village of Sóo lie. On its slope, rocks of pronounced sonority occur. The oral memory of the locals identifies them as a Guanche lithophone (fig. 13) [46].

This musical rocky conglomerate is one of the most significant in the archipelago. It is located in the lower zone of the crater, around a third of the slope. It is a monolithic block of 3.5 m high, well prominent on the environment. By hitting a stone at its sensitive nine points on the surface, it produces sounds very similar to that of bells. The points of percussion correspond with the rocky protrusions of the cavity (fig. 14).

The lithophone is located within a notable archaeological environment due to the nearby occurrence of El Jable sites (including the town of Fiquiníneo) and the rock art station of Juan del Hierro, where signs of Libyco-Berber writing have been documented.

The mountain of Pico Colorado, volcano of considerable size, arises juxtaposed with the Montaña de las Campanas, in front of its sonorous place. It closes a narrow valley that supports the transmission of the sound which is heavily heard in all the crater. Due to this exceptional resonance, the people of Sóo have the custom to strongly strike its stones[47].

[43] ULBRICH 2003.

[44] CABRERA PEREZ *et al.* 1999.

[45] TEJERA GASPAR, PERERA BETANCORT 2017: 6.

[46] MERLINI 2017.

[47] CABRERA PEREZ *et al.* 1999: 261.

The intense reddish ferruginous color of Pico Colorado ascends between the blue sea and the white sand of the Sóo Desert. On this sacred mountain, a ritual deposit of small size stones possibly utilized as decorations and/or as amulets have been discovered in 1983. It comprises 70[48] or 103[49] pieces made of chalcedony, basaltic conglomerate, coarse alabaster, and other lithic materials in various brownish gray, black-brown colors veined with numerous irregular white bands. The dimensions of the stones usually range between four and six cm. In most of them, not very deep incisions have been carved in the centre and in the edges, making them feasible to be carried hanging[50]. Similar artifacts have been found in different sites on the island.

It is still scarcely documented that the recovered stones were used as charms. However, Pico Colorado and Montaña de las Campanas were sacred peaks to the ancestral spirituality. The lithophone on the Montaña de las Campanas had a ritual exploitation and is located on the side of Pico Colorado exactly opposite to the slope where the assemblage of amulets was found. We also know that the folks of Sóo were engaged in a pilgrimage, on foot or on knees, to the summit of Pico Colorado. Consistently, some questions arise.

Was it a recent pilgrimage tradition, or the survival of aboriginal ritual customs? Was there a direct relationship between the hoard of amulets ritually deposited on one mountain and the bell rocks played on the counterpart mountain? Which was the symbolic character of these peaks for the surrounding protohistoric populations? Which was the role of the lithophone within the related ceremonies?

According to María Antonia Perera Betancort, the lithophone was utilized within pleading ceremonies addressed to superhuman powers for supporting prayers and supplications or to directly express them[51]. It is documented the habit of the pre-Hispanic shepherds to lead their herds to the so-called bleatyards (*bailaderos* or *baladeros*), plain and high places where they prayed their divinities during extreme drought. The *bailaderos/baladeros* should have distinct features such as to be located in high wooded areas and have wide views on the surrounding landscape. Generally the enclosure had a circular fence, consisting of a stone wall, or branches of trees, etc. Lambs were brought there after separation from their mothers, so that their complaining *balidos* (bleating)[52] accompanied supplications, invocation for rain and offerings to the divinities. The *bailaderos/baladeros* served as sanctuaries where the *maguadas* (priestesses) performed rituals of fertility and purification that were part of Guanches daily life and that were kept alive for many years even after the European conquest. The Catholic church demonized these pagan rituals and openly accused the priestesses of witchcraft, considering their

[48] TEJERA GASPAR 1986: 277.

[49] CABRERA PEREZ *et al.* 1999: 246.

[50] TEJERA GASPAR 1986: 277; CABRERA PEREZ *et al.* 1999: 84, 247, 261.

[51] PERERA BETANCORT 2006: 143.

[52] The term comes from *balar* (to bleat).

sacred dances as diabolic. This is why in many cases the dominant Spanish tradition has replaced the toponym "*Bailadero de los Guanches*" with "*Bailadero de las Brujas*" (*Bailadero* of the Witches). The archaeological site formed on the surface of the Corral de La Ovejada, at the northeastern base of the Montaña de Mina or Emina (Lanzarote), yielded abundant material on these ceremonies and attests the presence of at least three of these circular/ellipsoidal enclosures of ten m in diameter. Another site was located next to the Queso de los majos or Zonzamas[53].

SUPERNATURAL ACOUSTICS AT LA PUNTA DEL HIDALGO

At La Punta del Hidalgo (on the so-called Guanches Plateau, Tenerife), the lithophone is located within an enclosure that probably was used as ceremonial center by the Guanche inhabitants of the area. The natural environment that surrounds this site linked to ancestral rituals is spectacular, due to the abrupt landscape and the steep of the ravine. The sonorous place is identified by the oral tradition as the Bewitched Caves (Cuevas Encantadas), within the ravine of the Blind Caves (Cuevas Ciegas).

The ceremonial center is extraordinarily rich in archaeological vestiges of the ancient protohistorical culture. It is composed among other elements by channels, cups, rock engravings, and an unusual geological formation one meter and a half high with phallic aspect.

Also the caves have striking shapes. Due to their height and strategic location, they open on dominant views of the ravine and a wide sky. In a wall of the rock there are hollows that inside the cave have a circular shape and on the outside of it have a rectangular shape. According to Javier García Miranda, the complexity in plan and execution needed skilled carvers; an eccentric point of view from the general interpretation of the Guanches as brutes who just looked after their goats.

He also mentioned a circular stone with a hollow in the center and radial indentations that possibly indicate a solar clock, since it resembles other Guanches clocks cataloged in Tenerife some of which remained in use just up to a century ago. Finally a half moon was dug in the ground[54].

The highlight of the place is its impressive sonority. According to Miranda, the lithophone has a supernatural acoustic[55]. That impressive sound effect lasted through centuries in the oral tradition of Guanches descendants up to the informers of the resarcher.

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[53] CABRERA PÉREZ *et al.* 1999: 248; JIMÉNEZ GONZÁLEZ 2012.

[54] MIRANDA 2013; 87 f.

[55] MIRANDA 2013: 89.

According to oral memory, rock engravings, cup-marks, channels, and ringing stones were used by ancestral population in rituals of request for rains and/or human and animal fertility[56].

THE REVIVAL OF THE *LOMO DE LA CAMPANA* THANKS TO THE WATER WAR

The *litófono La Campana* or *Lomo de la Campana* is located in the neighborhood of the village Lomo Magullo (Valsequillo, Northeastern Gran Canaria). It is on a small rocky elevation situated on the lava flow on the left margin of one of the ravines that originated the basin of the Barranco Real de Telde. The hill is at an altitude of 416 meters. This lithophone, which rings like the bell of a church when struck with a stone, is still preserved. It is made of three blocks, one in horizontal position and the other two in almost vertical station. The horizontal phonolite is in the central position with respect to the other two. It is 120 centimeters long by 60 centimeters high. The percussion surface has an orientation of 140 degrees to the magnetic North. Marks of abrasion by continuous blowing on distinct points characterize its surface. The repeated use over time is evidenced by the characteristic patina acquired by the percussion surfaces. Rodríguez Fleitas individuated on the ground, at the feet of the sonorous rocks, stones that have been used as percussion instruments and many rocky scraps jumped away by effect of bumps[57].

The lithophone lies in a strategic and scenic location that allows a wide perspective on most of the coast of Telde, a very densely populated area of the island from prehistory to present time. The orientation of the ringing blocks towards the Barranco de los Cernícalos makes it acting as a sounding board, propagating the vibration through the adjoining valley. This commanding and acoustically reinforced setting confirms the hypothesis, based on ethnographic evidence, concerning the exploitation of the lithophone to transmit messages or simply sounding alarms. Its function was similar to that performed by the historic watchtowers, prominent places from which a wide territory could be monitored and at the same time messages could be transmitted, either by light signals (fires) or acoustic indications.

The lithophone was spatially connected to an aboriginal site. It is located in the proximity the troglodyte caves of Tecén, where archaeological material from the native traditions was kept for centuries after their persecution by the Court of the Inquisition.

Remarkable are the ethnographic information about this volcanic sonorous place from the *Carta Etnográfica de Gran Canaria*[58]. It belonged to José Florido and then to his

[56] MERLINI 2017.

[57] FLEITAS 1999: 24.

[58] CARTA ETNOGRÁFICA DE GRAN CANARIA 2017, 9255 – LITÓFONO "LA CAMPANA" EN LOMO MAGULLO.

son Juan Monzón. They called it *Cho-Campana*, or *Juanito el de la Campana*. The family that owns the land is known by the nickname of "those of the bell" for its hobby to make sounds for a purely ludic purpose. Even the neighbors who pass by the place, mainly shepherds, hunters and children, are used to strike with small stones the large horizontal stone slab as they were holding clappers of a bell. The sound is clearly heard by the inhabitants of the neighboring village of Lomo Magullo.

At the patron saint festivities – the *Fiesta a la Nuestra Señora de las Nieves* (Festival to the Our lady of the Snow), two or three days before the fifth of August – an event is still organized by the young neighbors to commemorate the rocky bell and make sounds with it. Playing session at "la Campana" are included in the celebrations program. Kites soar in the sky at the chimes of the rocky bell. It is becoming common practice among young people in the area to play the lithophone for parties.

The *Traída del agua* is another event, adaptation of an aboriginal rite to implore God Alcoran to bestow the scarcest resource in the island: water. During drought, the native population performed procession to the *almogarenes*, sacred places where milk and butter were spilled. Nowadays, when the bells start ringing the attendees move on the rhythm of a band and stop in the square with the church consecrated to Nuestra Señora de las Nieves. Here they perform a popular war dance in which participants wet the walls of the church and get wet throwing water to each other from containers carried from the irrigation ditches (fig. 15).

Lomo de la Campana is one of the few sites in the Gran Canaria where the place name and its function have remained unharmed over the centuries, largely because of the limited anthropic effects and the endurance of the customs by the surrounding population.

Local tradition situates next to the lithophone also the so-called *Foot of God*. It is a large stone with a hole in the shape of a foot. Anyone who puts his foot in the cavity has the sensation that it re-arranges itself with the proper dimensions and measures of the intruded foot.

THE WITCH FIGHTING AGAINST THE MUSICAL POWER OF THE STONES

In Fuerteventura, *Majada del Jinojo* is located next to the village of Vega de Río Palmas (Betancuria)[59]. The morphology of the place where the sonorous group of stones under investigation is located is very suggestive[60]. A basaltic formation arising in one of the slopes that converge in the ravine of the Vega de Río Palmas leans out towards a cliff that

[59] The lithophones in Fuerteventura have been studied by Manuel González Ortega since 1983 within his project of redacting a musical songbook of the island traditions. See ORTEGA 1992-1994: 225-237.

[60] This unique complex of natural rocks was individuated by Manuel González Ortega thanks to information from Juan Ruiz, outstanding folklorist, native of Vega de Río Palmas, who heard about it from his parents as a child.

divides the slope vertically to the ravine. Several rocks of different sizes emerge from that basaltic formation. Three of them form a kind of large stage with respect to the deep narrow steep-sided valley. These rocks are placed one above the other, although an irregular block is located in the middle of two of them, in horizontal position, and one of its tips sticks out. This arrangement offers optimal acoustic possibilities, and even the configuration of the terrain makes it very easy to play the stone by one or two performers. Five percussion marks appear on the surface of the block, consistent with the emission of different sounds. The depression in which this stone set is located causes resonance and echo of the diverse vibrations produced when hitting the lithophone[61].

Legends abound on this special place. Since ancestral times, it was narrated that the owner of a land in the surroundings of *Majada del Jinojo* went to irrigate it. When he arrived to the place with the lithophone, he found a marvelous naked young woman sitting under a fig tree. The surprised peasant asked her where she came from. She explained that she was returning from a dance held in the village of Ternemoy, but her companions had gone away leaving her there in that condition. The woman begged him to hit the ringing stone. He did so but, when he turned to her, she had disappeared to make fun of her male victim who had conceived concupiscent expectations. This tale shares elements with narrations about witches that are so abundant in Fuerteventura, although here the lithophonic use of a magical stone plays a pivotal role. The volcanic charming rock, when hit, produces a supernatural effect by making the fairy disappear.

According to another significant legend, the neighbors of the Vega de Río Palmas did not like to pass by the *Majada del Jinojo* during the night. It was said that the landlady of the place, who died many years ago, had a reputation as a witch and that terrifying forces came out from her house, located 200 meters away from the lithophone. It is remarkable to notice that she was not the witch of the ringing stones, but the female sorcerer against them. The old woman was always fighting against the *Majada del Jinojo* and its musical power, erecting fences and walls around it.

The Bell Rock in a Territory Consecrated to an Evil Spirit in Pig Form

The Barranco de Tejeleita (Valverde), in Northeastern El Hierro, is a key place for rock art investigation in the island, listing in sequence six archaeological sites connected by a net of traditional ways used by the peasants up to a few decades ago. Irma Mora Aguiar documented the continuity over the centuries in the tradition of engraving rocks along these passages within the landscape[62]. Half of the panels studied by her contain Libyco-Berber inscriptions of brief texts, which linear divisions possibly separate messages in

[61] ORTEGA 1992-1994: 226.

[62] AGUIAR 2011-2012: 76.

different words. According to the analysis of the archaeological and environmental contexts in which they are found, they express a close relationship with the funerary world and with the scarcity of water resources. In particular, they are inscribed within a territory that ancient texts indicate as consecrated to Aranfaybo, an evil spirit in pig form that played as a mediation agent between human beings and gods and that was invoked as rain giver in the propitiatory rites against drought[63]. Population fasted, raised prayers and elevated pitiful songs to heaven for three days, waiting for rain. The pig consecrated to Aranfaybo was taken out by the priest from its sacred cave and was not allowed to return back until the rain fall.

In Sector II of the Tejeleita petroglyphs, a lithophone supports panel 2.7[64]. Under it, several cup marks have been excavated on the surface of a long and elongated outstanding rock. In general, they have a rounded shape, but also rectangular and quadrangular. Some of these cup marks overlap. Others seem to be connected by small and broken channels. Lithophone, engravings, and net of cup marks on a singular rock created a symbolic system full of meaning for the ancestral population. After European acculturation, the meaning of this symbolic set got lost[65].

SONORITY OF OTHER ROCKY DRUMS

Lithophones are widespread in the Canary archipelago. In Gran Canaria, *Laja de La campana* and *La Campana* individuate stone assemblages located in the Barranco de Los Secos (Mogán) and in the El Carrizal de Tejeda. Due to their unstable position, they produce a characteristic sound, similar to that of a bell, when a flock of goats pass over them. The propagation of the vibration through the ravine allows the shepherds to control if all the goats are present or if someone is missing[66].

In Tenerife, a lithophone is located at Izaña, in the area of the Teide Astronomical Observatory[67]. Its sound was recorded and it is audible at the link https://it.ivoox.com/en/arqueoacustica-litofonos-tenerife-espana-audios-mp3_rf_1598940_1.html.

Another lithophonic structure in Tenerife is the *Cueva del Campanario* (the Cave of the Bell Tower) at Guía de Isora, situated in one of the ravines of Tabaiba (el Rosario), on the coast of the Barranco Hondo. Here protohistoric utensils for grazing have been

[63] JIMÉNEZ GÓMEZ 2001: 352.

[64] Sector II has a total of ten panels of different chronology and typology. It is perhaps the best known for its noticeable signs and considerable number of engravings.

[65] AGUIAR 2011-2012: 77.

[66] FLEITAS 1999: 31.

[67] MIRANDA 2013: 46 f.

unearthed. They are shepherds' long sticks, spears and clubs ending in a spike or a fork and reinforced in the lower part by a goat horn[68].

A remarkable lithophone in Tenerife is located in the *Laja de la Campana* next to Santa Úrsula (Santa Cruz de Tenerife)[69]. Others occur in the *Morro de las Campanitas* (between Fasnia and Guïmar)[70], *Cueva de la Campana* (Igueste de Candelaria) and at Teno Alto. The lithophone in the *Cueva de la Campana* is approachable only by a double rope descent[71]. The lithophone at Teno Alto is a hexagonal gong rock called *Piedra de los Loros* (Stone of the Parrots) (fig. 16). Resident peasants are used to narrate stories about ancient funerary rituals and legends concerning a treasure that was hidden inside it but that was never found. Local mythologies apart, the *Piedra de los Loros* is still used by the shepherds of the area as one can verify by the marks they are leaving on the surface. Teno Alto is the refuge of the rural essence of Tenerife. This area and its lithophone are very significant for the cultural communion between the ancient inhabitants of the island and their inheritors.

In Fuerteventura, the *Piedra de la Campana* (Bell Stone) is at Malpaís Chico (Tuineje). It is a flattened and rounded phonolite with an irregular diameter of 55 cm. The block was transferred from a neighboring quarry. It has small and numerous indentations on its upper surface produced by percussion stomps, which affect also many areas of its circumference. In spite of the small size, numerous sound points favor multiple resonances of the rock[72].

In the same island, there is Morro del Castillejo, on the left bank of the Degollada de Sice in the direction of Betancuria. It is a minor mountain of 468 meters above sea level crowned by a small rocky chain where a series of little caves occur. One of them, a cavity of 1.30 m high by 1.10 m wide, is known to locals as the *Cueva de la Campana*. In one of its walls there are two percussion points in which the sound signals are not very accentuated. Nonetheless, it is still used as a natural resonator by the shepherds of the area. The arrangement of the rocky chain in the shape of an altar and the orientation of the mountain, dominant on the landscape and on the town of Tuineje, generate a perfect natural setting to establish a watchtower or a place of cult[73].

The Marian cult in Fuerteventura has its epicenter in Las Peñitas, a small cave more or less in the middle of the gorge that houses the island's ancient capital. There, according to popular tradition, the Virgen de la Peña (Our Lady of the Rock), patron saint of Fuerteventura, appeared to two friars who glimpsed a strange glow on a nearby rock where, after digging, they found a small statue of alabaster representing the Madonna according

[68] CUSCOY 1968.

[69] MIRANDA 2013: 57 f.

[70] MIRANDA 2013: 59 f.

[71] MIRANDA 2013: 63 f.

[72] ORTEGA 1992-1994: 228.

[73] ORTEGA 1992-1994: 228.

to the canons of French Gothic[74]. It is, then, a site of outstanding magical-religious value within the catalog of legends of the island[75]. A volcanic formation is just some meters north to the place of the apparition. It is known among locals as *Laja del Tambor* (Pájara) because, by hitting it in different points, you get rough sounds. After beating, the sound waves multiply with remarkable intensity thanks to the geographical arrangement of the rock, located in front of a very steep mountainous wall[76].

Risco de la Campana is located within an abandoned cave in the Barranco de La Torre (La Antigua, Fuerteventura). The rocky complex is formed by one or two slabs of remarkable size that sound when struck[77]. As the other instances of the island, it belongs to intrusive volcanic formations that produced material acids (traquitas and phonolites).

At El Hierro, the *Roque de la Campana* is identified by the oral tradition as a drum of rocks[78]. It is located in the same area of La Candia, one of the most important rock art sites of the island. Geometric motifs of varied typology and alphabetic signs coexist in the same panels. The inscriptions can be related with the Berber alphabets of Pre-Sahara and High Atlas areas (northern Africa).

Sounds and tones produced by the stone instruments of the Canary archipelago are the most diverse, depending on the type of rock and its processing. For example, the lithophone near Santa Úrsula (North Tenerife) produces very sharp metal vibrations similar to the sonority of the Caribbean drums[79]. The lithophone located in the area of Izaña (South Tenerife) emits a sharp, intense metallic vibration similar to a plate of metal whose notes can be heard up to half a kilometer away. The sounds delivered by the wall of the *Cueva de la Campana* (Fuerteventura) are feeble and opaque[80]. The basaltic formations of the so-called *Cueva del Campanario*, located in one of the ravines of Tabaiba (Tenerife), generate a dry, mineral sound[81]. The *Raspadera del Tagoro del Rey* (costa de Granadilla, Tenerife), within an outcrop of stones in the shape of a circle with a great profusion of rock engravings, remains of huts and shellfish fossils[82], has the unpleasant sound of a rasp.

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[74] GALANTE 2007.

[75] GALANTE 2006; RUIZ 2008; TRAPERO 1990: 289-295.

[76] ORTEGA 1992-1994: 229-230.

[77] ORTEGA 1992-1994: 230.

[78] SPRINGER BUNK, JIMÉNEZ GÓMEZ 1996: 275.

[79] MIRANDA 2011.

[80] ORTEGA 1992-1994: 228.

[81] MIRANDA 2011; MIRANDA 2013.

[82] It was one of meeting places in the related protohistoric menceyato (native kingdom). For the systematic archaeological survey on the site, see ESCRIBANO, MEDEROS 2010.

Conclusions

Lithophones are natural instruments made of or built from rocks of different geological material and of various geometrical spatiality. The lithophones of the stone age Canary Islands are igneous stone structures formed by one or several phonolitic and basaltic rocks. They are capable and utilized since Prehistory to emit distinct and characteristic musical sounds, when struck with a stone or another object. Sounds resemble those of bells. These ringing stones are the most primitive musical instruments of the archipelago and occur in several topic places.

Local archaeologists started to study the Canary lithophones investigating spots which denomination seemed to refer to rock sites of volcanic origin endowed with a special sonority[83]. Archaeo-acoustical research verified the sound produced by the stones and that in several instances the natural acoustic resonances of these spaces amplified and transmitted at considerable distances[84]. Protohistoric Guanches exploited the natural synergy established between the sonority of the volcanic rocks and the environment that increases and conveys it[85]. The produced sounds have distinct frequencies associable with musical notes or, sometimes, even with melodies or harmonies, but they are usually restricted in tone and timbre. None of the Canary lithophones – made of plate or cuboid and often abutting rocks – has better sound and greater vibration than columnar stalagmites and stalactites of the Paleolithic caves that achieve different pitches when struck. The impressive acoustics of the Cave of Nerja (Malaga, Spain), for example, was appreciated not only by the prehistoric natives, but also by modern people who still perform and enjoy concerts within it.

Studies about the Guanches exploitation of rocks that produce sounds with musical scale are just at their earliest steps. Archaeological investigation documents that the

[83] Typical place names are Degollada de la Campana (Artenara), Degollada y Tablero de la Piedra de la Campana (Mogán), Lomo de la Campana (Valsequillo), Risco de la Campana (San Bartolomé de Tirajana), Roque de la Campana (Tamaduste), Hoya de la Campana (Arucas y Telde), Cueva de la Campana (Gáldar), several Laja de la Campana (Mogán, Vega de Río Palmas, and Santa Úrsula), La Montaña de las Campanas (Teguise), Toque de Campanas (Anocheza), countless El Campanario, and Las Piedras de Hierro (Igueste de San Andrés).

[84] FLEITAS 1999. The term "bell" tops the list of about seventy registered place names in the archipelago. Of course, not all the toponyms associated to a bell and its sound are lithophones. For example, the toponym *El Campanario* in San Bartolomé de Tirajana (Gran Canaria) indicates a very high site, close to 1.900 m. above sea level, located between the Altos de Los Corralillo and the Altos de los Cabuquillos. The toponym is not connected to the presence of sonorous rocks, but is due to the location of the place: it towers in the very steep rocky cliffs that encircle the Caldera de Tirajana. Its shape and position reminds a metaphorical bell, being the culminating point of the area. *La Campana* is a sea cove off *Punta de Gáldar* (Las Palmas). The place possibly received that name for the placement of a buoy with a bell to warn the navigators. The toponym *Barranquillo de la Campana* (Agaete), north of *Risco beach* (Lanzarote), is probably due to the existence of a bell connected to the water outcropping from a mine.

[85] ORTEGA 1992-1994: 226.

acoustics of these places was the key variable for their discovery and utilization by the ancestral population. Ringing points on stone blocks have been clearly evidenced by them with cup-marks as to suggest rhythmic playing. Lithophones are sited alongside petroglyphs, drawings and inscriptions incised into rocks of archaeological sites that are often astronomically significant. Sometimes Guanches shaped the acoustic space. In certain cases, they arranged the stone blocks to empower their sonority. For example, lithophones have been oriented to empower the sounding board effect of the surrounding space. In other cases, the natural sound of the rocks was accentuated by artificial layout and configuration of the place. Despite the interest raised by the importance of acoustics and music in Guanche society and the key role played by lithophones thanks to the astonishing acoustic response of some places, only one quantitative study has so far been carried out. And it was at starting level[86]. Archaeological, acoustic and ethnographic assessment, analysis, and interpretation have to be implemented on measuring sounds in sonotopes, echoes and their association with rock art sites and landscapes, intensity and duration of resonance with possible coincidence between resonant places and specific iconographies, and reverberation of acoustically 'live' sites.

The sound rock sites are endorsed not only by the associated toponyms and archaeological-semiotic richness, but also by oral tradition about their use from prehistorical times until recent times. In several instances, we know only the toponyms of the lithophonic sites, their location, and a generic oral memory emphasizing their special (and sometimes reputed magic) sonorous effects. The collective, although feeble, reminiscence maintained in the Canary Islands generation after generation represents the fundamental base of the investigation on the music of the stones. It includes: explication of toponyms; association of the lithophones with the ancestral meaning of rock carvings, channels, cup marks, and other types of rock art in the surrounding areas; their relationship with engraved texts; connections of the ringing stones with legends and related traditions as places of worship, and/or of performing special rituals, and/or of supernatural interest and consecration. Various testimonies interviewed by Javier García Miranda pointed out that lithophones were still regularly used in Southern Tenerife until the beginning of the last century. In modern times, in the 1980s, El Taller Canario de la Canción incorporated lithophones into several compositions, although they are not present into current musical projects. Like so many vernacular manifestations, the tradition of the musical stones began to be lost after the Civil War and barely survived as a marginal element of the Canary ancestral culture which is kept alive by elders in the most remote localities[87]. In the present survey, we have investigated how the lithophone de la *Peña de Luis Cabrera*, the *Lomo de la Campana,* and the *Piedra de los Loros* are yet in use.

[86] ULBRICH 2003.

[87] MIRANDA 2011.

However, still nowadays the ancestral sonorous rocks are affected by suspicion that chains them to "pagan culture and spirituality". Lithophones are characterized by a diversity of forms, structures, geological frames and sounds, but they share a gloomy common denominator: most of them have been vandalized, plundered, but never Christianized, i.e. reformulated and taken under control by the Catholic Church and its liturgy. In several instances, the ringing stones are overwhelmed by 'civilization'. *Hoya de la Campana* (Arucas y Telde, Gran Canaria), is located on the west bank of the Arucas-Bañaderos highway (GC-330). The origin of the site name is due to collective memory about the presence of a hole in the rock as a "natural resonance box". At the moment, the agricultural use of the space and the urbanization of its surroundings have cancelled any sign of the special acoustics from which the place name came.

The lithophones had a social and cultural solid place in the Canary native world. Most likely, their ancient function was multiple, taking advantage of their sonority and the exceptional loudness that benefit the sites where they are embedded in. In communion with a still intact nature, the ancient inhabitants of the islands found in the sound of the stones a means of expression that served multiple purposes.–

Prehistoric and protohistoric manifestations firstly insert the lithophones among the natural sites that anchored animism and attest of the magic-ritual features of the sound of the volcanic stones. Music had not only a playful character, but also ceremonial in association with crops, cures, and offerings to divinities and deceased. It is significant that still now the location of the lithophones is not particularly advertised. Some of them are yet considered a "sacred secret", such as the one that is located next to the village of Sóo. In several cases investigated in the present survey, such as for example *Laja del Tambor* and *Piedra de la Campana* in Fuerteventura, the archaeo-semiotic investigation documents an evident sacralization of the space as part of sanctuaries[88].

Spanish conquerors and their chroniclers inform about rites of the ancient Canarians, mainly hinged on the request for rain. They included fasting of the entire village, processions with their livestock to certain elevated places or to the ocean, lamenting invocations by humans and even cattle and flocks that Europeans misunderstood as yelling and barking, round dances, beating the ocean with sticks, sink palms and branches into the sea to make them weep, etc. Lithophones offered support for rhythmic or a-rhythmic sound production within the proscenium for the sacred acts aimed to gain the divinities' pity[89].

Concerning the magic-religious power of the sound by the volcanic blocks, it has to be underlined their association to the chthonic female divinities connected with Earth. According to the Guanches matrifocal culture and animist approach[90], they were the

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[88] ORTEGA 1992-1994: 230; FLEITAS 1999: 24.

[89] ULBRICH 2003. The Guanches generated rhythmic sound as accompaniment to ritual dances also with the use of rattles at hands and feet. See ABREU GALINDO 1977: 55.

[90] VANDENBROECK 2012: 115.

mythological demiurges of fire, lightning, wind, and eruptions but also the controllers of these formidable aspects of nature and generators of fertile volcanic black soil; igneous rocks were possibly even part of them. The Teide, for example, was sacred as the vertical world axis (*axis mundi*). It was the area where the supernatural and the natural worlds converged, the dead and the living met, the invisible would come to light detonating energies[91]. The volcano was considered an abyss leading to the mysteries of uncontrollable and dangerous nature, but renewing and nourishing, a chthonic super-powers. According to Christian observers as the chronicler Antonio Cedeño, Guanches believed in devil spirits that "lived in the earth's depths and appeared on earth through volcanoes' mounds" [92]. However, Guanches trusted in chthonic female deities capable to dominate and unite opposite energies. Their sacred supernatural character is attested to by the number of worshipped caves that yielded ritual deposits and offerings[93]. Producing sound with volcanic rocks emerged from subterranean depths was therefore suitable for establishing straight contact with the deities; a more direct and immediate touch with them than prayer or written invocation. Investigation on lithophones makes emerge arcane indigenous knowledge and beliefs[94]. The presence of engraved inscriptions in the vicinity of ringing stones reinforces the hypothesis of their ritual functionality related to the world of beliefs.

Hans-Joachim Ulbrich formulated interesting hypothesis concerning the special meaning of the a-rhythmic litho phonic sounds and their association with the chaotic lines and geometric shapes of the typical "linear geometric" style of the ancient Canary rock art. Measuring the acoustics of the lithophone de la *Peña de Luis Cabrera*, he observed that the chaotic linear geometric style of the rock art panel occurring right next to the lithophone corresponds to the chaotic shouting performed at ritual praying ceremonies. Other engraved lines may represent the wind in form of swirl, rainstorms accompanied by thunders echoed by rocks. Also the surge of the sea was triggered by ceremonies accompanied by a-rhythmic sounds[95]. The striking of the lithophone might be related also to making noise in order to drive out evil spirits associated with the volcanism of the islands, as evidenced by ethnographic comparison. Geologists estimate that the eruption of the volcano Monte

[91] VANDENBROECK 2012: 110.

[92] Quoted by RODRÍGUEZ 1998: 320.

[93] TEJERA GASPAR 1995: 41-43. See for example, Goddess Chaxiraxi (later Virgin Mary) was worshiped in the Chinguaro Cave (Tenerife).

[94] In rural archaic context, She who knows and dominates the earth's secret forces must be 'black'. On the Canary Islands, the syncretic process imposed black Madonnas as Christian version of chthonic female supernatural powers. The black *Virgen de la Candelaria* (Our Lady of Candlemas) is the predominant typology of statue of the Madonna in the archipelago. She is invoked by peasants agains drought and by the seamen against the incontrollable depth and tempestuousness of the ocean. The *Virgen de los Volcanes* and the *Virgen de las Nieves* are believed to suppress the earth's inner fire by popular devotion. The first stops the spouting lava; the second extinguishes the volcano fire with snow. VANDENBROECK 2012: 108, 118.

[95] ULBRICH 2003.

Corona in Northern Lanzarote, which was only a few kilometers from the la *Peña de Luis Cabrera* basalt-stone formation, took place in the period 3000-1000 BCE.

It is also known by oral tradition that lithophones were struck rhythmically to support dances and make musical competition during other kind of ceremonies such as social events (thanksgivings and royal consecrations). Lithophonic sounds possibly struck the key passages in the proclamation of the new *mencey* (king), including the impressive ceremony of the ancestor's bone. A bone of the most ancient ancestor of the dynasty was brought forth ceremoniously to be kissed by the new *mencey*. From that moment, his royal authority was officially recognized by any member of the elective Council (*Tagoror*).

Other lithophonic structures within commanding view and acoustically reinforced setting have a different vocation. The *lithophone of the Roque de Malpaso* and the *Lomo de la Campana* served mainly to warn the inhabitants of external threats and aggressions. Associated to rock art expression, they were also used to mark the possession on the land, indicating a kind of territorial border[96].

Lithophones have been exploited by the native population for a long time after the European conquest. The continuity of striking stones in search of peculiar ringing sounds is apparent in rugged rural areas at least until nowadays. It is not only for curiosity or amusement for children or hunters, but as a resource for shepherd daily life. Sometimes the sonorous quality of the geological material exploited by the aborigines was 'rediscovered' by the colonizers. It is the unique ethnographic feature of a prehistoric knowledge that has been carefully preserved and orally transmitted up to our days. However, the collective memory does not know how the rhythmic and a-rhythmic stone sound accompanied the ancient religious rites.

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Fig. 1. The outcrop that compose the sonorous structure on the summit of the Roque de Malpaso (Southern Tenerife) viewed from the bottom. Photo Marco Merlini.

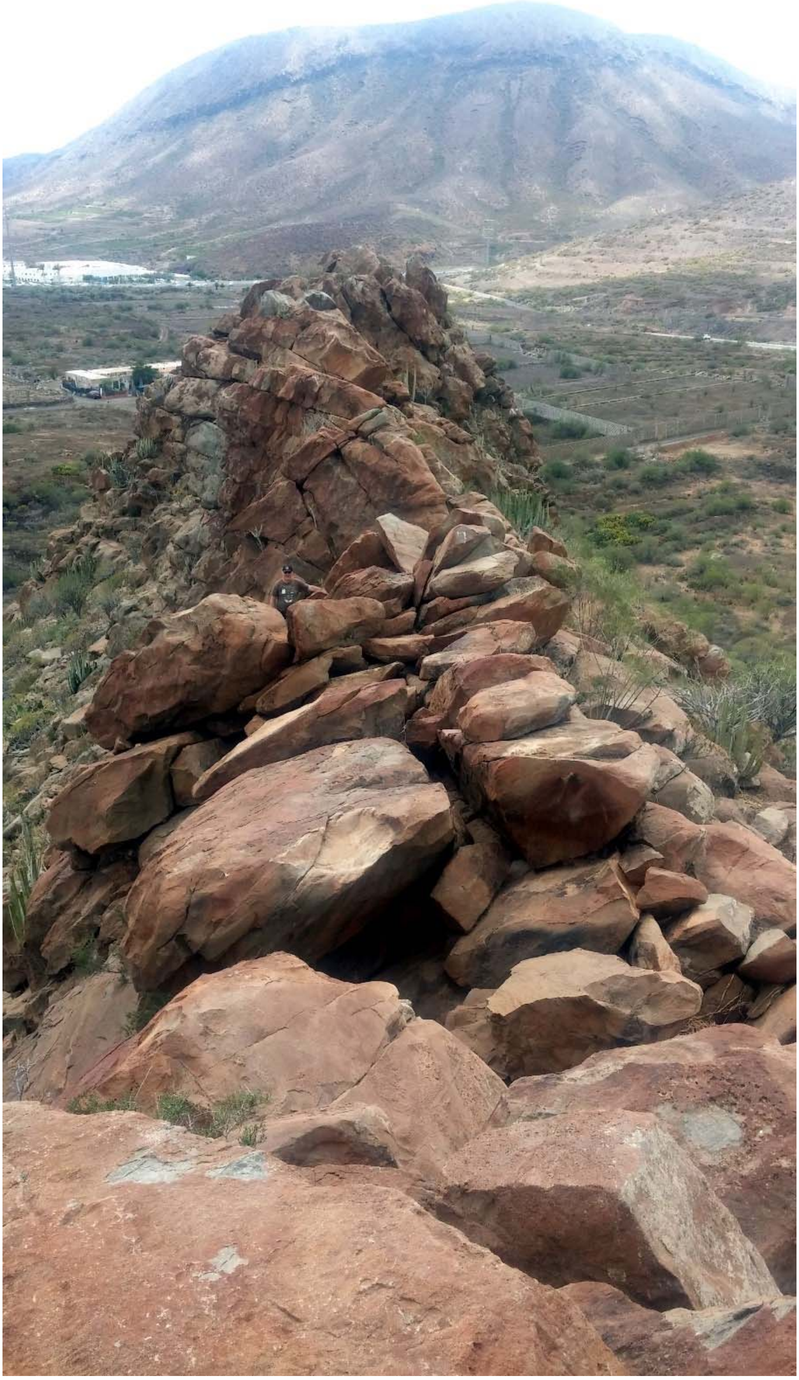

Fig. 2. A sentinel placed on the Roque de Malpaso can feel to be in the center of the whole environment. Photo Aviana Bulgarelli.

Fig. 3. Panels with engraved schematic and geometric motifs next to the lithophone of the Roque de Malpaso. They are located within a small depression in the middle of the spur and are surmounted by the rocks that make up the sonorous stone assemblage.

Fig. 4. A small area of the engraved and musical stones has been 3D modelled by J. Víctor Febles. 1, individuates the panel of Guanche rock art that lies at the center. Like many Guanche carvings, it consists of lines and geometric patterns. 2, 3, 4, that indicate percussion marks. The rocks on this outcrop ring when they are struck. Each stone has a different pitch and percussion points can be seen at dozens on the stones.

Fig. 5. The environnement of the lithophone de la Peña de Luis Cabrera.

Fig. 6. The groups of the musical stones of la Peña de Luis Cabrera are situated in the central area of the outcrop.

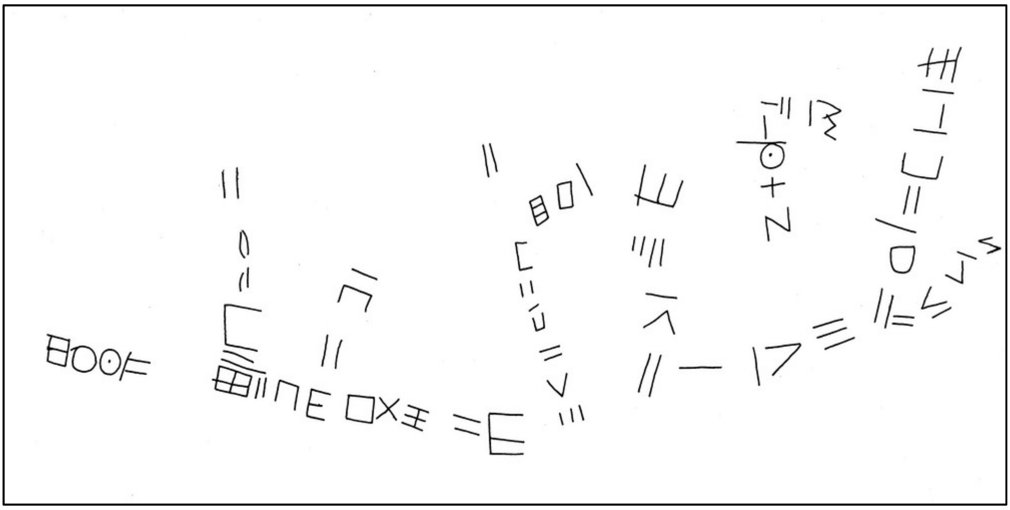

Fig. 7. Inscription n. 2 next to the lithophone de la Peña de Luis Cabrera, from the LBI-PROJECT. Vertical and horizontal direction of writing. N. 12? lines. The signs are engraved. Attempted Transliteration - 1: WNBR$\underline{B}$ 2: S_3W S_4TRS_3DL$\underline{B}$ 3: LDW*W 4: WGN 5: HMLMNWD 6: *RN 7: WGN*S_2 8: YTBZ_1 9: *NLZ_1 10: HMNZ_1 11: WRNWMNZ_1NS_4 12: YNDKW.

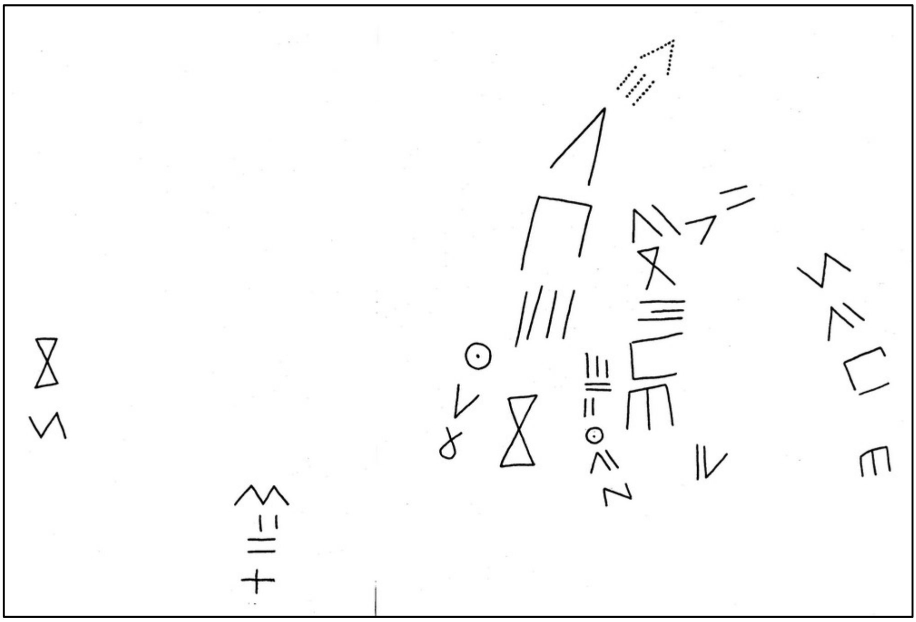

Fig. 8. Inscription n. 1 next to the lithophone de la Peña de Luis Cabrera, from the LBI-PROJECT. Vertical direction of writing. N. 8 lines. The signs are scratched. Transliteration - 1: YS1 2: TLWS3 3: FMB 4: S1TGGHG 5: YKBWLH 6: S3DHFK 7: GW 8: S3RKY.

Fig. 9. Photo of the Inscription n. 2 next to the lithophone de la Peña de Luis Cabrera, from the LBI-PROJECT. http://www.institutum-canarium.org/lbi-project/data/i_cabr1.2ap.jpg.

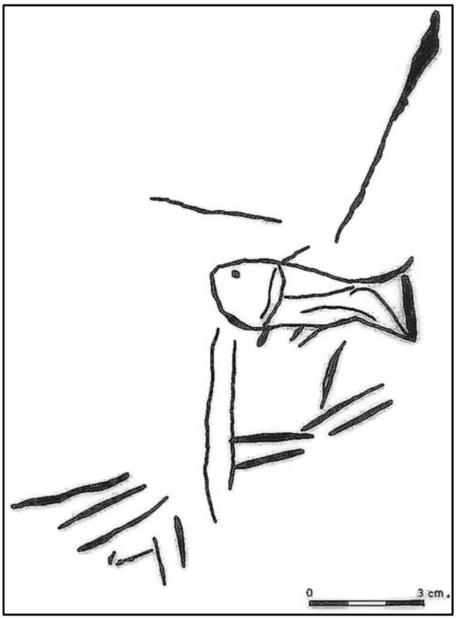

Fig. 10. The Libyco-Berber signs of writing next to the lithophone de la Peña de Luis Cabrera are associated to the engraving of a fish. ATOCHE, RAMÍREZ 2009: 194, fig. 5.

Fig. 11. On the lithophone de la Peña de Luis Cabrera, white circles on the stones specifically mark the points to be beaten, in order to extract sounds and create a melody.

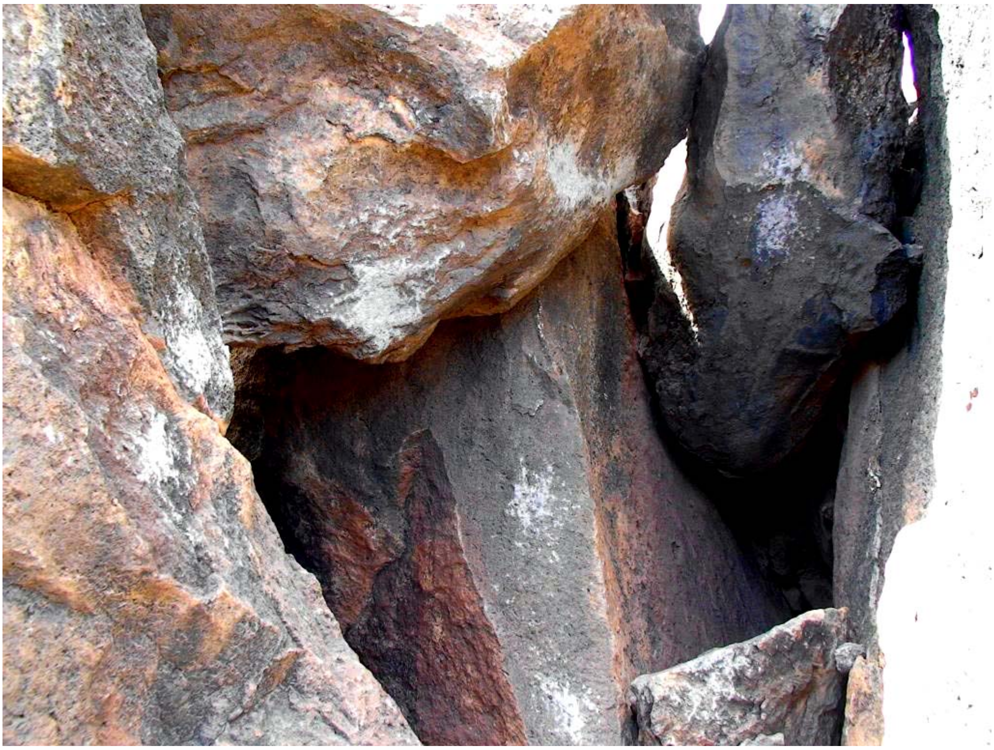

Fig. 12. On the lithophone de la Peña de Luis Cabrera, white circles on a selection of handy sized rocks allow a person to play a tune.

Fig. 13. The lithophone in the environment of the Caldera of Sóo (Lanzarote).

Fig. 14. The sonorous niche of the lithophone of Sóo (Lanzarote).

Fig. 15. Playing Lomo de la Campana.

Fig. 16. Litófono de Teno Alto (Tenerife). Photo Gabriel Delgado Aguilera. Proyecto "Litofonías": U. P. de Valencia, 2006-2009.

ABBREVIATIONS
LISTE DES ABRÉVIATIONS - ABKÜRZUNGEN

ActaArchHung	Acta Archaeologica Academiae Scientiarum Hungaricae, Budapest.
ActaMM	Acta Moldaviae Meridionalis, Muzeului Județean Vaslui.
ActaMN	Acta Musei Napocensis, Muzeul de Istorie a Transilvaniei, Cluj-Napoca.
ActaMP	Acta Musei Porolissensis, Muzeul Județean de Istorie și Artă Zalău.
ActaMS	Acta Moldaviae Septentrionalis, Muzeul Judeţean Botoşani.
ActaMT	Acta Musei Tutovensis, Muzeul „Vasile Pârvan" Bârlad.
ActaTS	Acta Terrae Septemcastrensis, Universitatea „Lucian Blaga" Sibiu, Muzeul Național Brukenthal, Sibiu.
AErt	Archaeologiai Értesítő, Magyar Tudományos Akadémia. Archaeologiai Bizottság; Országos Régészeti és Embertani Társulat; Magyar Régészeti, Művészettörténeti és Éremtani Társulat; Magyar Régészeti és Művészettörténeti Társulat, Budapest.
AIIAC	Anuarul Institutului de Istorie şi Arheologie Cluj, Cluj-Napoca.
AIIAI/ AIIX	Anuarul Institutului de Istorie şi Arheologie Iaşi/ Anuarul Institutului de Istorie „A. D. Xenopol", Iaşi.
AJA	American Journal of Archaeology, The Journal of the Archaeological Institute of America.
AKorrBl	Archäologisches Korrespondenzblatt, Römisch-Germanisches Zentralmuseum, Mainz.
Almogaren	Almogaren. Jahrbuch des Institutum Canarium und der Gesellschaft für interdisziplinäre Saharaforschung Hallein, Wien, Austria.
American Antiquity	Society for American Archaeology.
AnBan	Analele Banatului, Serie Nouă, Arheologie-Istorie, Muzeul Banatului, Timișoara.

Anatolica	Annuaire International pour les civilisations de l'Asie antérieure, publié sous les auspices de l'Institut historique et archéologique néerlandais à Istanbul.
Angustia	Angustia, Muzeul Național al Carpaților Răsăriteni, Sfântu Gheorghe.
Ann. Naturhist. Mus. Wien	Annalen des Naturhistorischen Museums in Wien, Wien.
AnnUVT	Annales d'Université Valahia Târgoviște, Section d'Archéologie et d'Histoire, Târgoviște.
Antiquity	Antiquity, Department of Archaeology Durham University, Durham, UK.
Apulum	Apulum. Acta Musei Apulensis, Muzeul Național al Unirii, Alba-Iulia.
Archaeologia Austriaca	Archaeologia Austriaca. Journal of Archaeology of Europe, Institute for Oriental and European Archaeology of the Austrian Academy of Sciences, Vienna.
Archaeometry	Research Laboratory for Archaeology and the History of Art, Oxford University, in association with the Gesellschaft für Naturwissenschaftliche Archäologie Archäometrie and Society for Archaeological Sciences by Wiley-Blackwell.
Archeologiya	Archeologiya Akademia Nauk Ukraini Institut Archeologiji, Kiev.
Archiva Moldaviae	Arhivele Naționale ale României Iași.
ArhMold	Arheologia Moldovei, Institutul de Arheologie Iaşi.
Arrabona	A Győri Múzeum évkönyve, Xántus János Múzeum, Győr, Hungary.
Arta și Arheologia	Director Prof. O. Tafrali, Ed. Cartea Românească, București.
ASLiRA	Bulletin de l'Association Scientifique Liégeoise pour la Recherche Archéologique.
AȘUI	Analele Ştiinţifice ale Universităţii „Alexandru Ioan Cuza" din Iaşi, Iaşi.
BAI	Bibliotheca Archaeologica Iassiensis, Iaşi.
BAM	Bibliotheca Archaeologica Moldaviae, Iași.
Banatica	Banatica, Revista Muzeului Banatului Montan, Reşiţa.
BAR	British Archaeological Reports, Oxford.
BAVA	Beiträge zur Allgemeinen und Vergleichenden Archäologie.

BB	Bibliotheca Brukenthal, Sibiu.
BC	Bibliotheca Cumidavae, Muzeul de Istorie Braşov.
BCH Suppl.	Bulletin de correspondance hellénique. Suppléments, Ecole Française d'Athenes, Athenes.
BCMI	Buletinul Comisiunii Monumentelor Istorice, București.
BCSS	Buletinul Cercurilor Științifice Studențești, Alba Iulia.
BHAB	Bibliotheca Historica et Archaeologica Banatica, Muzeul Banatului, Timişoara.
BMA	Bibliotheca Musei Apulensis, Muzeul Național al Unirii, Alba Iulia.
BMAnt	Bibliotheca Memoriae Antiquitatis, Muzeul de Istorie Piatra-Neamţ, Piatra-Neamț.
BMJT	Buletinul Muzeului Judeţean Teleorman. Seria Arheologie, Alexandria.
BPS	Baltic-Pontic Studies, Poznań, Poland.
BS	Bibliotheca Septemcastrensis, Universitatea „Lucian Blaga" Sibiu.
BSA	The Annual of the British School at Athens.
CambrAJ	Cambridge Archaeological Journal, McDonald Institute for Archaeological Research, Cambridge, UK.
Carpica	Carpica, Muzeul Judeţean de Istorie „Iulian Antonescu", Bacău.
CC	Codrul Cosminului, serie nouă, Universitatea „Ștefan cel Mare", Suceava.
CCAR	Cronica cercetărilor arheologice din România, CIMEC, București.
CCDJ	Cultură şi civilizaţie la Dunărea de Jos, Muzeul Dunării de Jos, Călăraşi.
CercArh	Cercetări Arheologice, Muzeul Național de Istorie a României, București.
CercIst	Cercetări Istorice, Serie Nouă, Muzeul de Istorie a Moldovei, Iași.
Crisia	Muzeul Țării Crișului, Oradea.
Current Anthropology	The University of Chicago Press.
Dacia (N. S.)	Dacia. Revue d'Archéologie et d'Histoire Ancienne, (Nouvelle Série), Bucharest.
Danubius	Danubius, Muzeul de Istorie Galaţi.

Das Altertum	Deutsche Akademie der Wissenschaften zu Berlin. Sektion für Altertumswissenschaft; Akademie der Wissenschaften der DDR. Zentralinstitut für Alte Geschichte und Archäologie; Zentralinstitut für Alte Geschichte und Archäologie Berlin, Germany.
Dissertationes Archaeologicae	Dissertationes Archaeologicae. Ex Instituto Archaeologico Universitatis de Rolando Eötvös Nominatae, Eötvös Loránd University, Institute of Archaeological Sciences, Budapest.
DossAParis	Les Dossiers d'Archéologie, Paris.
DP	Documenta Praehistorica. Poročilo o raziskovanju paleolitika, neolotika in eneolitika v Sloveniji. Neolitske študije/ Neolithic studies, Ljubliana.
EJA	European Journal of Archaeology.
EJM	European Journal of Mineralogy.
ERAUL	Etudes et recherches archéologiques de l'Université de Liège, Liège.
EurAnt	Eurasia Antiqua, Berlin.
FolA	Folia Archaeologica, Országos Magyar Történeti Múzeum; Magyar Nemzeti Múzeum, Budapest, Hungary.
Genava	Genava. La Revue des Musées d'art et d'histoire de Genève.
Hierasus	Hierasus. Anuarul Muzeului Judeţean Botoşani, Muzeul Judeţean Botoşani.
JAA	Journal of Anthropology and Archaeology, American Research Institute.
JAS	Journal of Archaeological Science.
JEA	Journal of European Archaeology.
JIES	Journal of Indo-European Studies.
Marisia	Muzeul Județean Mureș, Târgu Mureș.
Materiale	Materiale şi Cercetări Arheologice, Institutul de Arheologie „Vasile Pârvan", Bucureşti.
MedievA	Medieval Archaeology, Journal of the Society for Medieval Archaeology.
Méditerranées	Revue de l'association Méditerranées, Studia Pontica, Paris.
MemAnt	Memoria Antiquitatis, Complexul Muzeal Judeţean Neamţ, Piatra-Neamţ.

MIA	Materialy i issledovanija po archeologii SSSR (in Russian), Moscow, Izd-vo Akademii nauk SSSR.
MMS	Mitropolia Moldovei şi Sucevei.
MuzEvkSzeged	A Móra Ferenc Múzeum Évkönyve, Szeged.
Neo-Lithics	Neo-Lithics, The Newsletter of Southwest Asian Neolithic Research, Institut für Vorderasiatische Altertumskunde, Freie Universität Berlin, Germany.
OxfJA	Oxford Journal of Archaeology, Oxford.
Paléorient	Association Paléorient, Paris.
PAST	The Newsletter of the Prehistoric Society, London.
Patrimonium Banaticum	Direcția Județeană pentru Cultură Timiş, Timișoara.
Phoenix	Classical Association of Canada, Department of Greek and Roman Studies, University of Victoria, Victoria, Canada.
Praehistorica (Prague)	Univerzita Karlova v Praze, Nakladatelství Karolinum.
Quaternaire	Revue de l'Association Française pour l'Étude de Quaternaire, Paris.
Quaternary Science Reviews	Quaternary Science Reviews. The International Journal of Earth, Climate and Life Interactions.
Rediva	Revista Doctoranzilor în Istorie Veche şi Arheologie, Universitatea „Babeş-Bolyai", Cluj-Napoca.
RevArh	Revista Arheologică, Academia de Științe a Moldovei, Institutul Patrimoniul Cultural, Centrul de Arheologie, Chişinău.
ReVision	ReVision. A Journal of Consciousness and Transformation, Cambridge.
RScPreist	Rivista di Scienze Preistoriche, Firenze.
SAA	Studia Antiqua et Archaeologica, Seminarul de Istorie Antică şi Arheologie al Universităţii „Alexandru Ioan Cuza" din Iaşi.
SAHD	Scripta archaeologica et historica Dacoromaniae, Editura Universității „Alexandru Ioan Cuza", Iași.
Sargetia	Sargetia. Acta Muzei Devensis, Serie Nouă, Muzeul Civilizației Dacice și Romane Deva.

SCIV/ SCIVA	Studii şi Cercetări de Istorie Veche (şi Arheologie), Bucureşti.
SCȘI	Studii și cercetări științifice, Iași.
SlovA	Slovenská Archeológia, Nitra.
Spal	SPAL. Revista de Prehistoria y Arqueología, Universidad de Sevilla, Spain.
Sprawozdania Archeologiczne	Instytut Archeologii i Etnologii, Polskiej Akademii Nauk, Kraków.
SP	Studii de Preistorie, Asociația Română de Arheologie, București.
Starinar	Naučni časopis Arheološkog instituta u Beogradu, Belgrad.
StCC	Studii și Comunicări Caransebeș.
Studia Praehistorica	Department of prehistory, National Institute of Archaeology Museum, Bulgarian Academy of Sciences.
Suceava	Suceava, Anuarul Muzeului Bucovinei, Suceava.
Tabona	Tabona. Revista de Prehistoria y de Arqueología, Enero, Secretariado de Publicaciones de la Universidad de La Laguna, La Laguna de Tenerife.
Thraco-Dacica	Thraco-Dacica, Institutul Român de Tracologie, Bucureşti.
Tibiscum	Tibiscum. Acta Musei Caransebesiensis, Muzeul Judeţean de Etnografie şi al Regimentului de Graniţă Caransebeş.
VAH	Varia Archaeologica Hungarica, Budapest.
Veleia	Veleia. Revista de Prehistoria, Historia antigua, Arqueología y Filología clásicas, Universidad del Pais Vasco.
Vrancea	Vrancea. Studii și Comunicări, Muzeul Vrancei, Focșani.
WiadA	Wiadomości Archeologiczne. Bulletin Archéologique Polonais, Państwowego Muzeum Archeologicznego w Warszawie, Warszawa, Polska.
WorldA	World Archaeology.
Ziridava	Ziridava. Studia Archaeologica, Complexul Muzeal Arad.
ZPE	Zeitschrift für Papyrologie und Epigraphik, Universität zu Köln, Deutschland.

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